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(54) APPARATUS COMPRISING A CABLE

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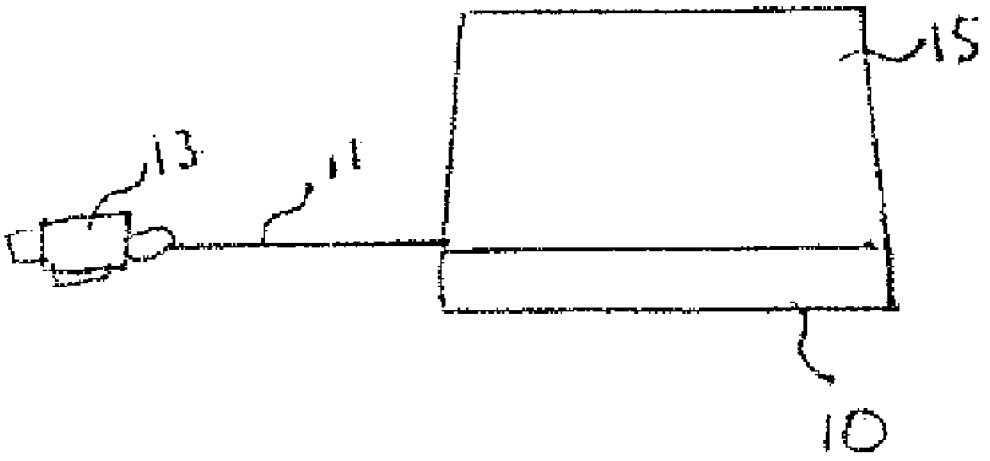
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USPC **242/370**

(57) **ABSTRACT**

An apparatus including a casing; a cable configured to be moved between a first position and a second position, wherein the cable includes an attachment portion and in the first position the attachment portion is positioned outside of the casing and in the second position the attachment portion is positioned within the casing; and a pulling member configured to enable a user to pull the cable from the first position towards the second position.



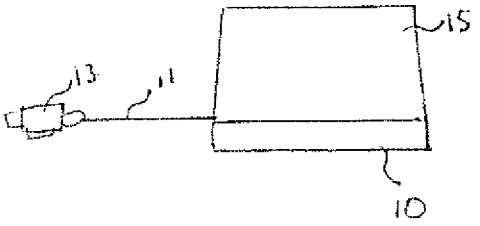


FIG. 1A

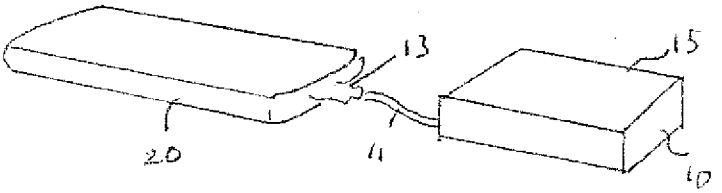


FIG. 1B

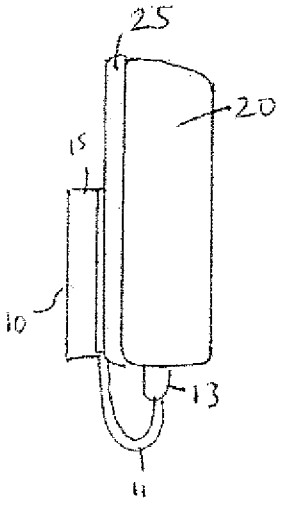


FIG. 1C

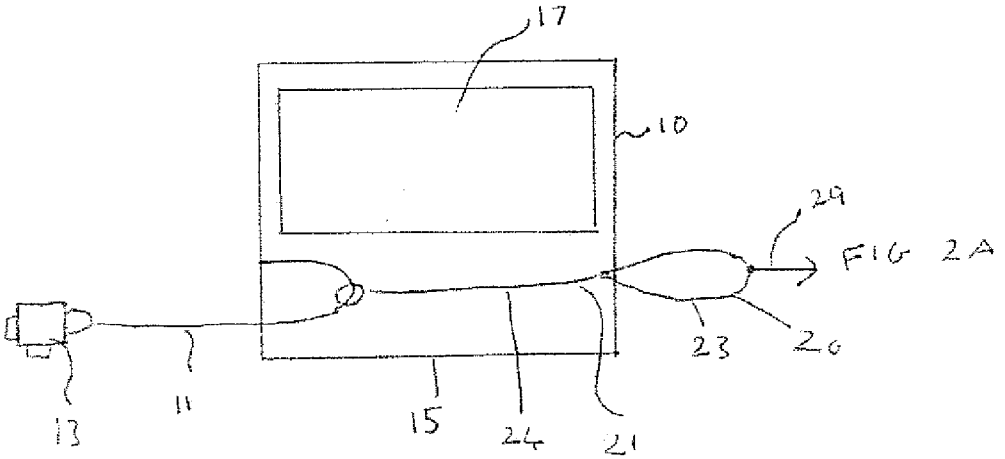


FIG 2A

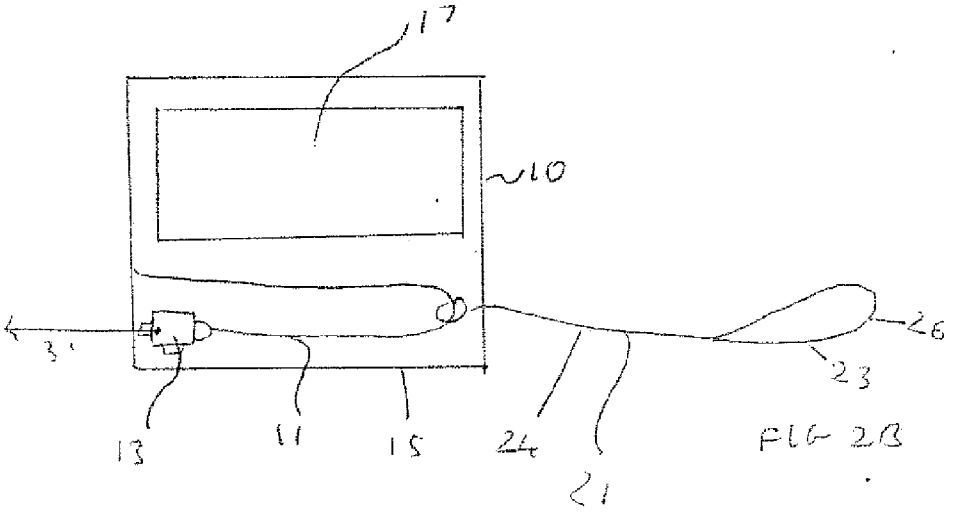


FIG 2B

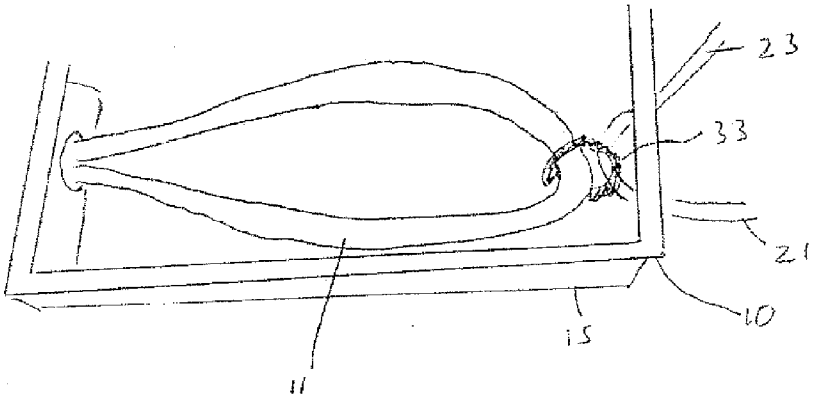


FIG. 3

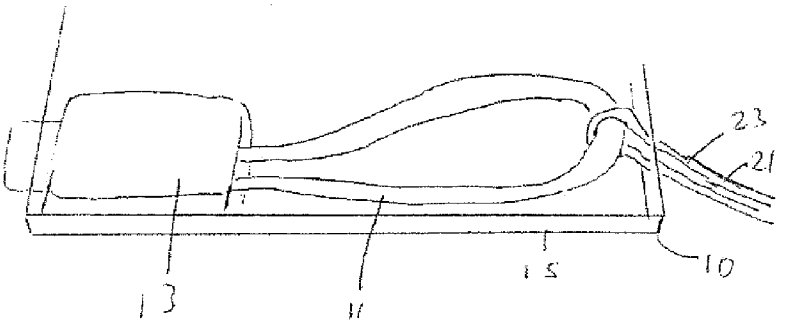


FIG. 4

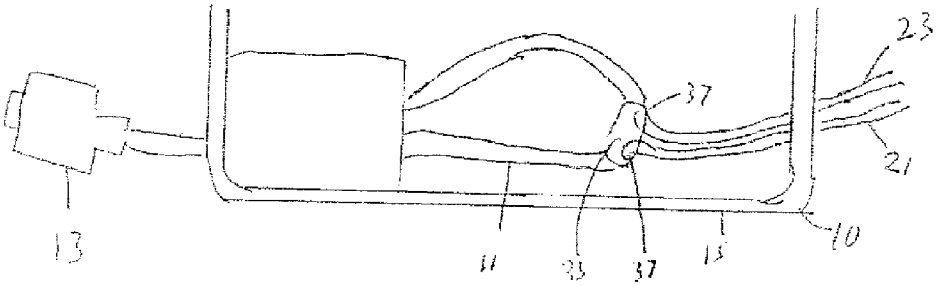


FIG. 5

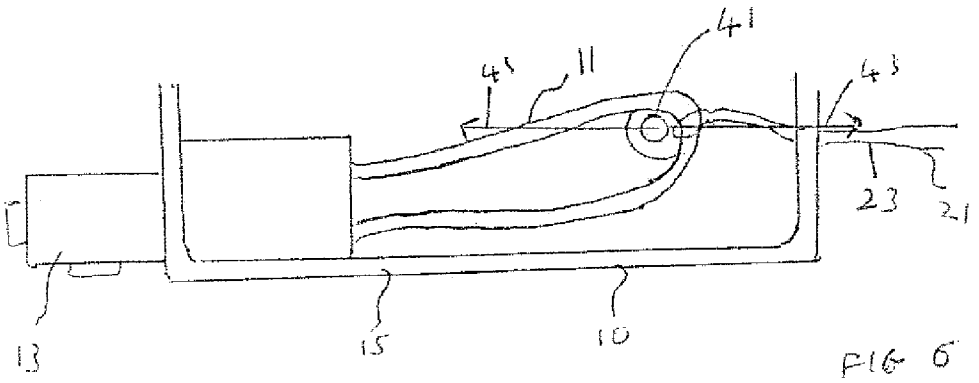


FIG 6

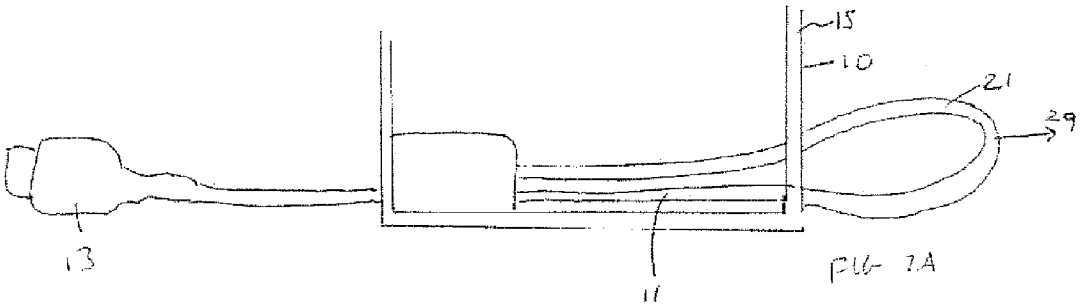


FIG. 7A

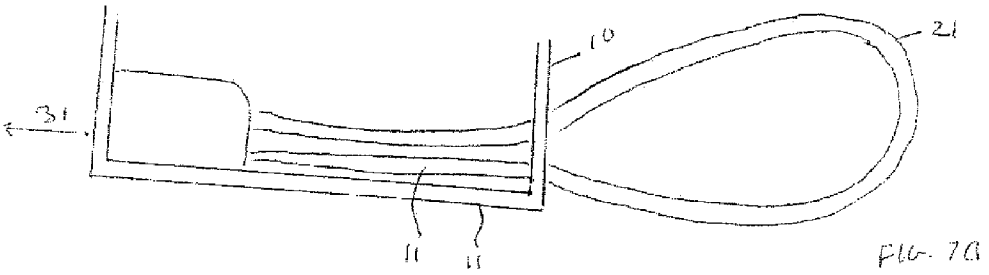


FIG. 7B

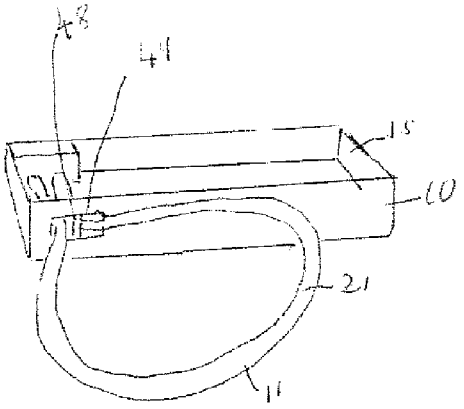


FIG. 7C

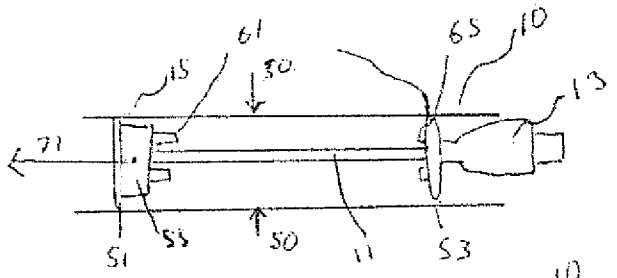


FIG. 3A

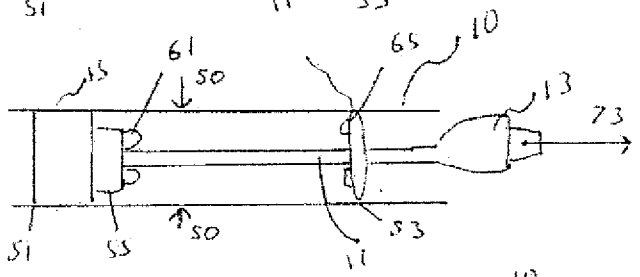


FIG. 3B

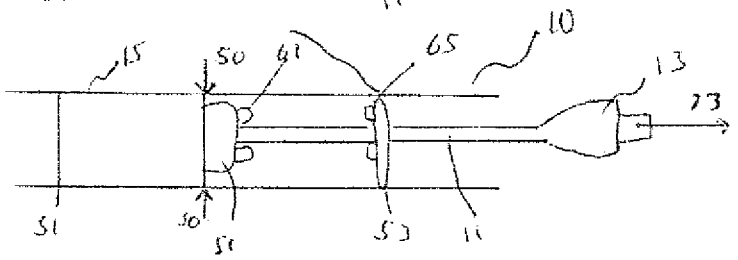


FIG. 3C

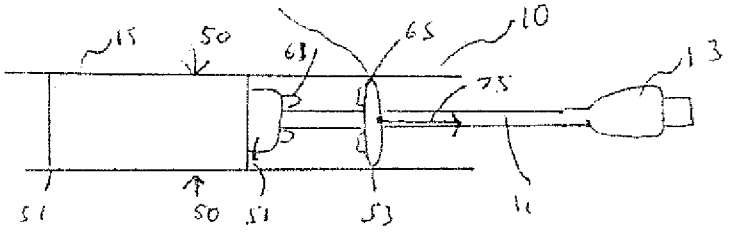


FIG. 3D

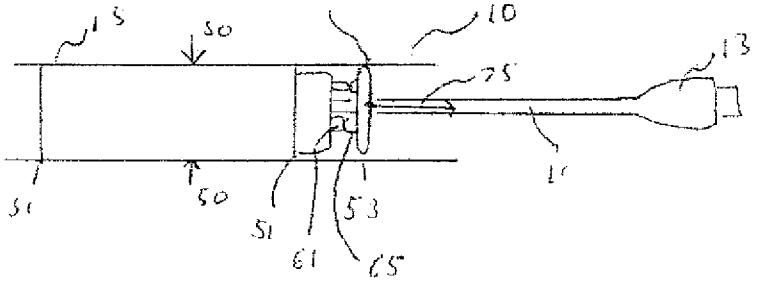


FIG. 3E

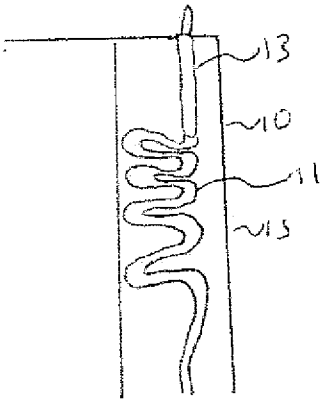


FIG. 9A

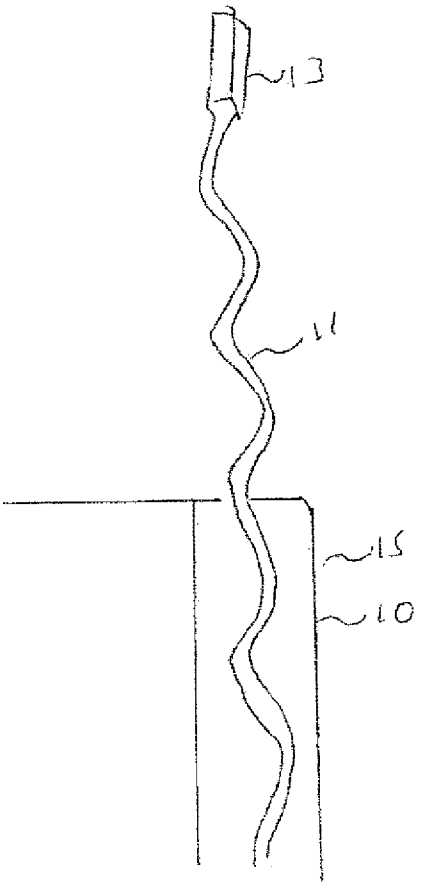


FIG. 9B

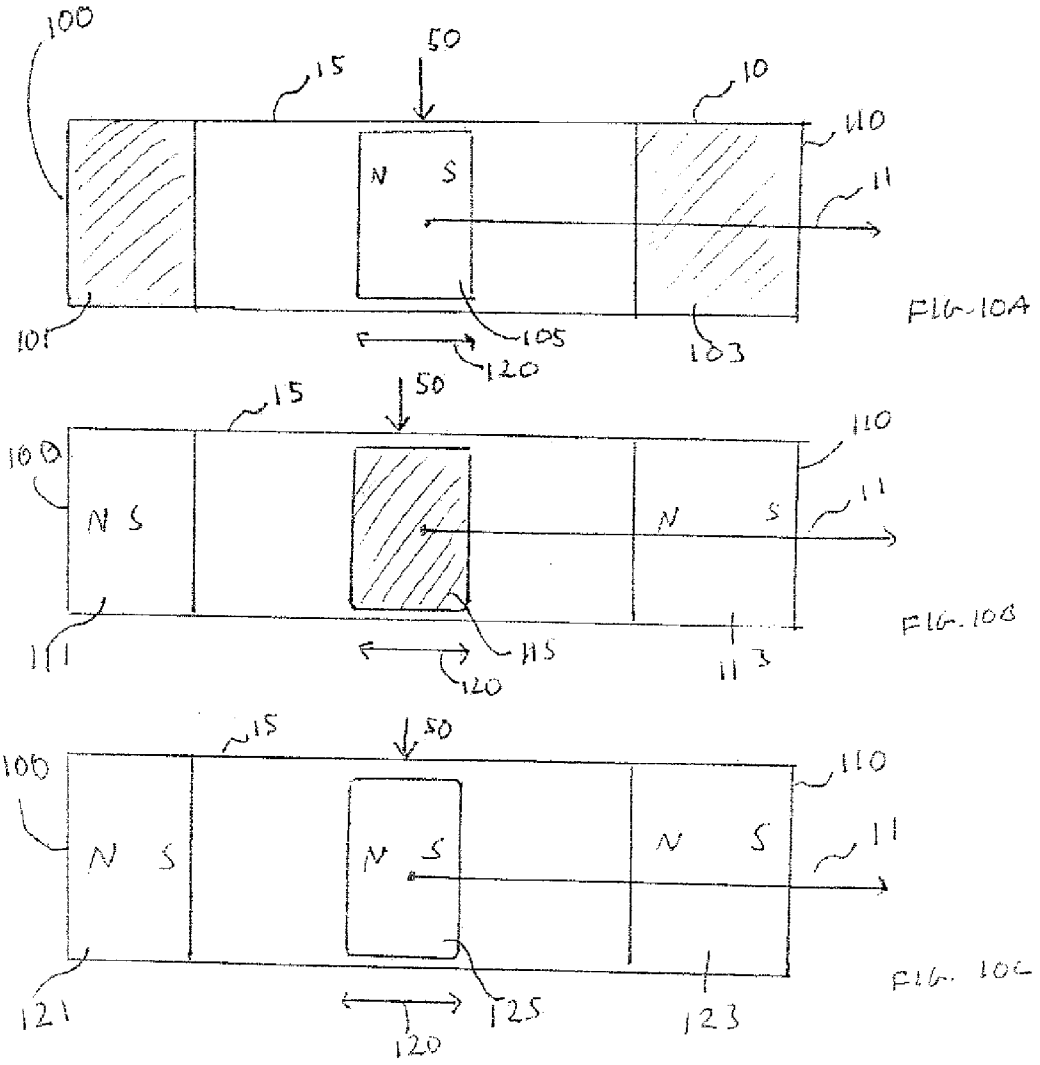


FIG. 10A

FIG. 10B

FIG. 10C

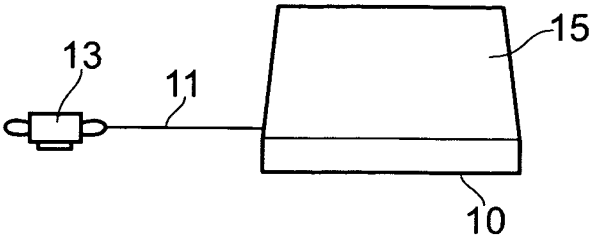


FIG. 1A

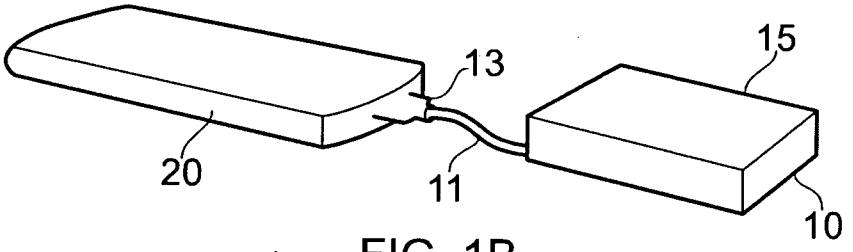


FIG. 1B

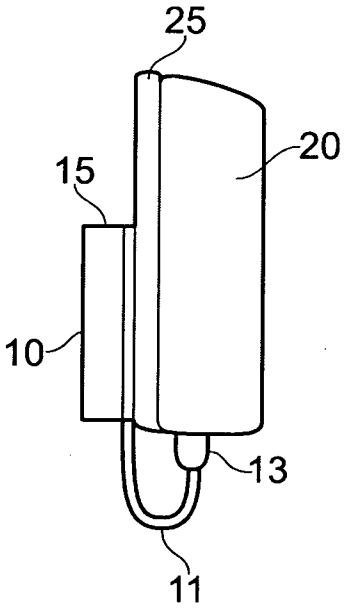


FIG. 1C

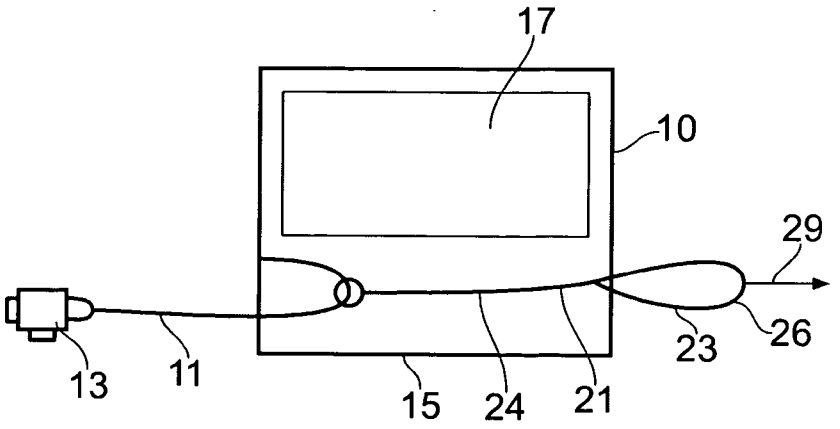


FIG. 2A

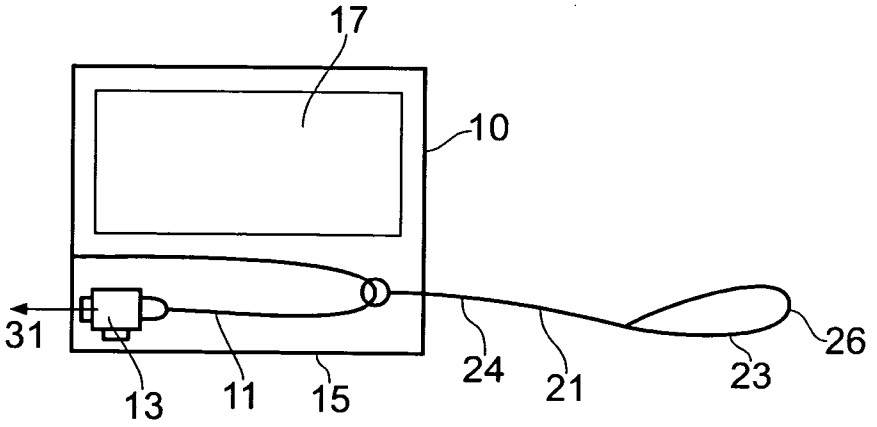


FIG. 2B

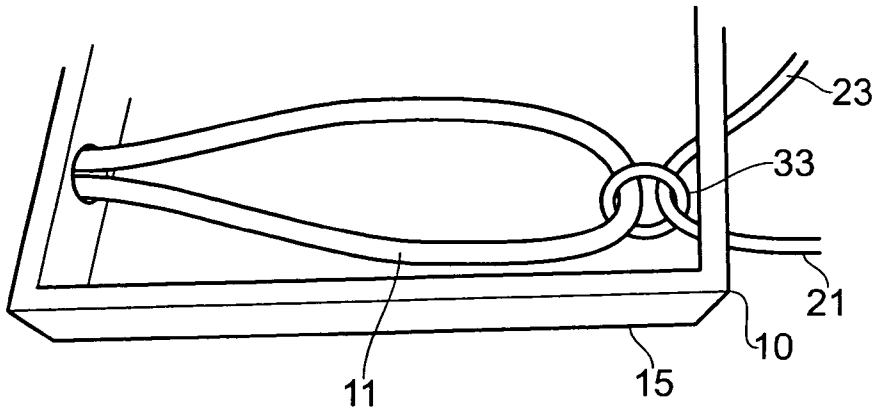


FIG. 3

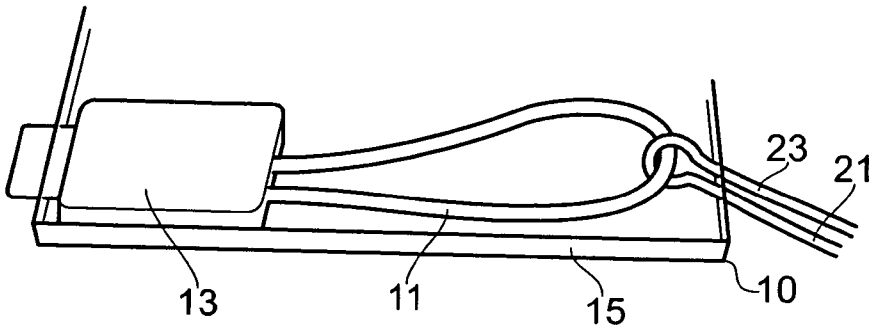


FIG. 4

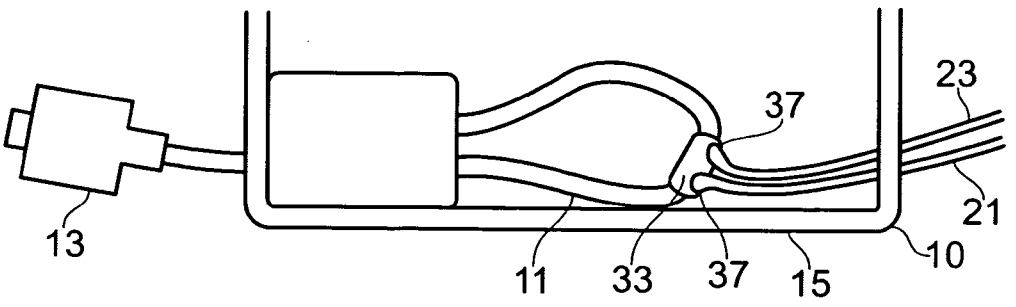


FIG. 5

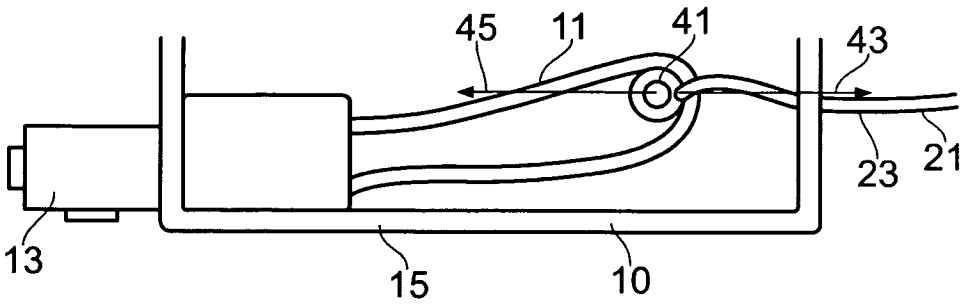


FIG. 6

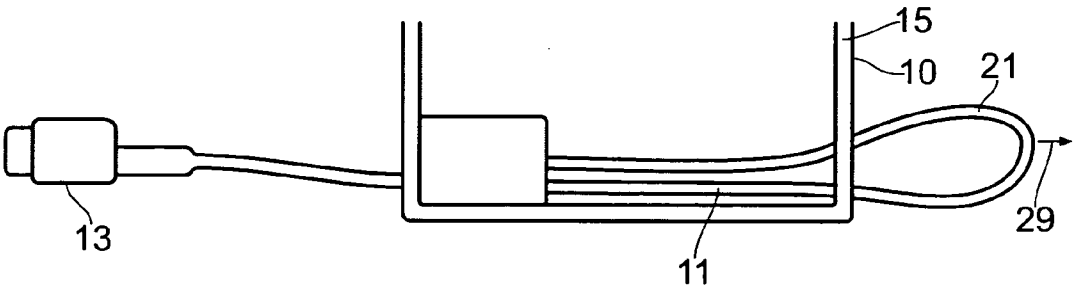


FIG. 7A

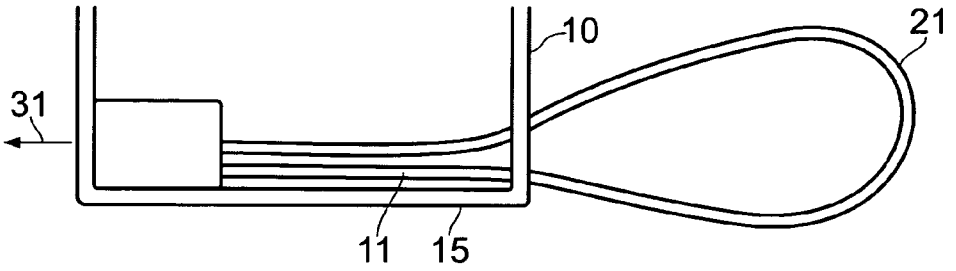


FIG. 7B

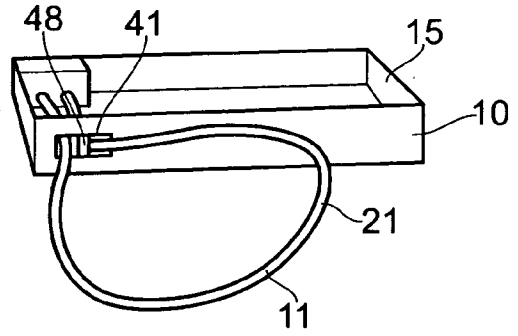


FIG. 7C

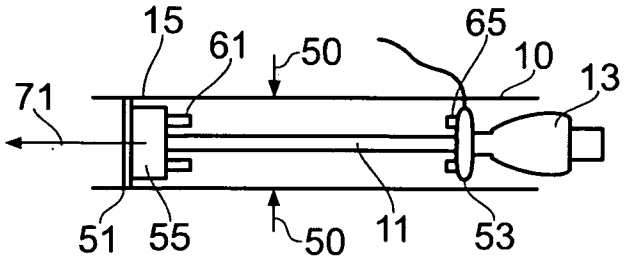


FIG. 8A

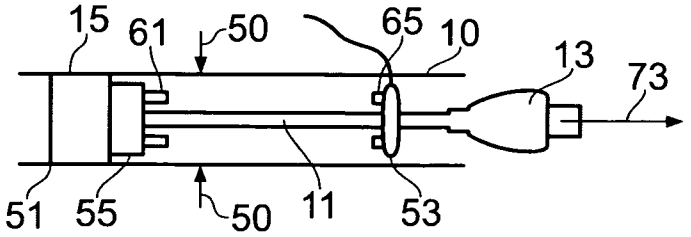


FIG. 8B

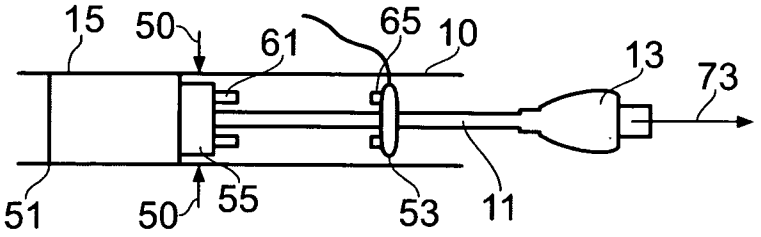


FIG. 8C

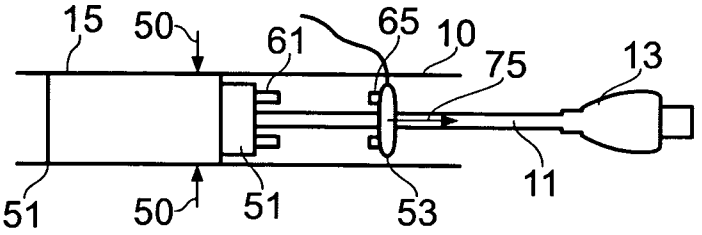


FIG. 8D

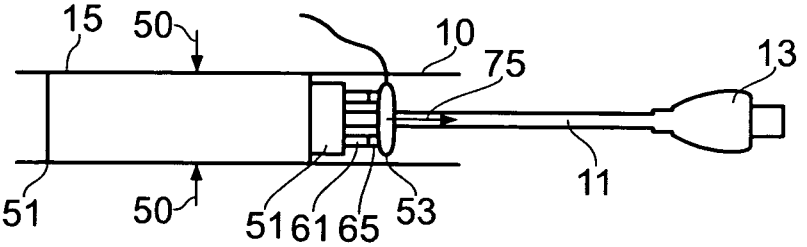


FIG. 8E

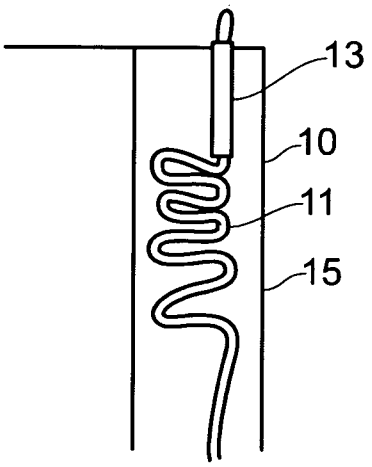


FIG. 9A

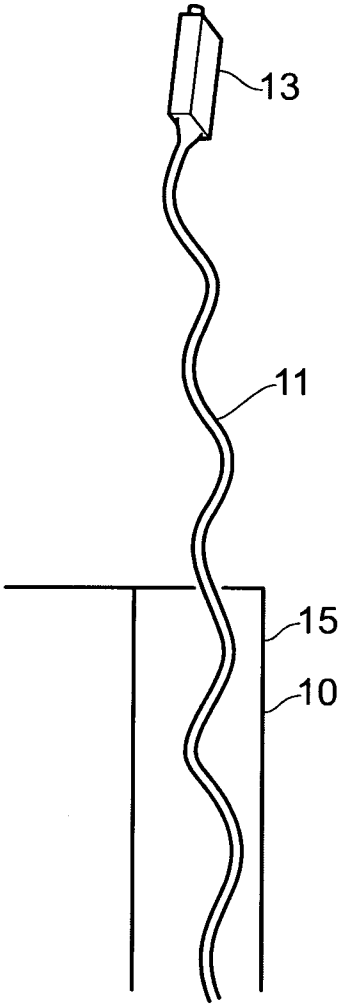


FIG. 9B

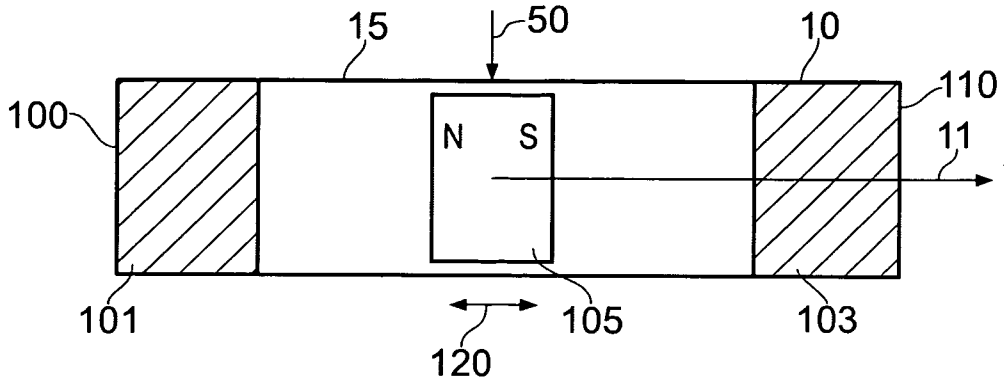


FIG. 10A

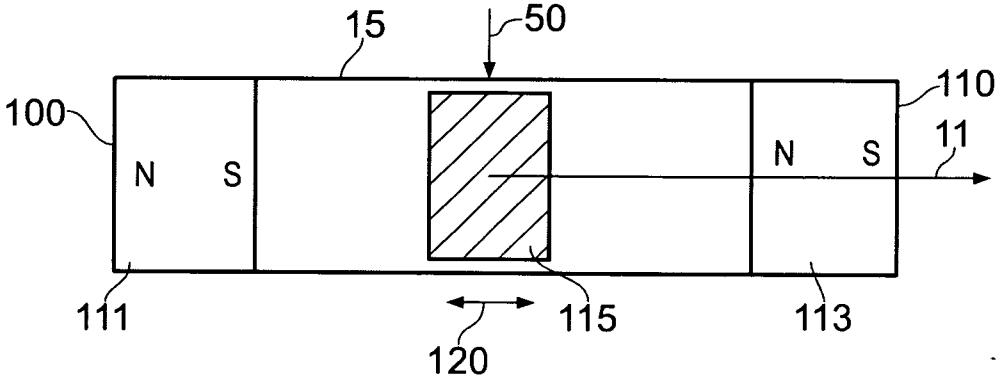


FIG. 10B

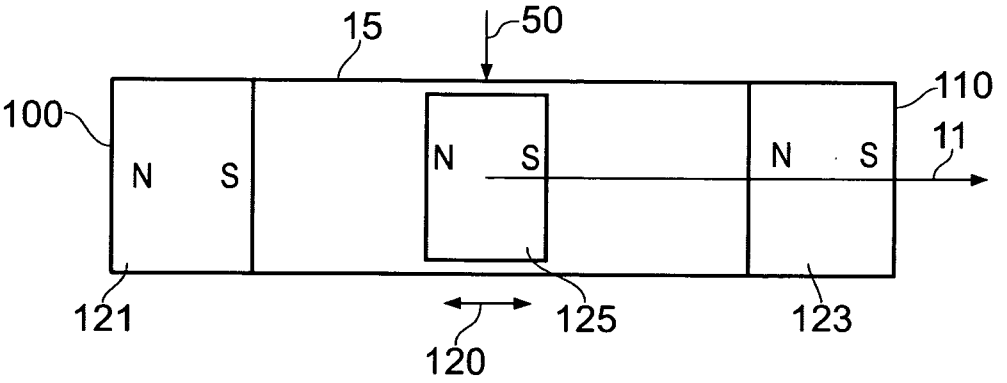


FIG. 10C

APPARATUS COMPRISING A CABLE

TECHNOLOGICAL FIELD

[0001] Examples of the present disclosure relate to an apparatus comprising a cable. In particular, they relate to an apparatus comprising a cable where the cable is configured to be housed within the casing of the apparatus.

BACKGROUND

[0002] Apparatus comprising cables are known. For example a cable may be used to connect an apparatus comprising a power source or memory to an electronic device.

[0003] When the cable is not in use it may be useful to enable the cable to be retracted to a position within the casing of the apparatus.

BRIEF SUMMARY

[0004] According to some, but not necessarily all examples of the disclosure there may be provided an apparatus comprising: a casing; a cable configured to be moved between a first position and a second position, wherein the cable comprises an attachment portion and in the first position the attachment portion is positioned outside of the casing and in the second position the attachment portion is positioned within the casing; and a pulling member configured to enable a user to pull the cable from the first position towards the second position.

[0005] In some examples at least a portion of the pulling member may be located outside of the casing.

[0006] In some examples the pulling member may comprise a portion of the cable which extends out of the casing.

[0007] In some examples the pulling member may comprise a strap which is connected to the cable.

[0008] In some examples the cable may be configured to be moved from the second position towards the first position by a user pulling the cable. The pulling member may be configured so that when the cable is moved from the second position towards the first position at least a portion of the pulling member is moved into the casing.

[0009] In some examples the cable may comprise a flexible member. The cable may be arranged so that the flexible member comprises a bend portion. A spool may be provided in the bend portion. The spool may be configured to move linearly within the casing as the cable moves between the first and second position.

[0010] In some examples the attachment portion may be configured to be attached to another apparatus when the cable is in the first position.

[0011] In some examples the attachment portion may be configured to be completely retained within the casing when the cable is in the second position.

[0012] In some examples the cable may comprise at least a portion coated in polymer.

[0013] In some examples the may cable comprise at least a portion coated in textile.

[0014] According to some, but not necessarily all examples of the disclosure there may be provided an apparatus comprising: a casing; a cable configured to be moved between a first position and a second position, wherein the cable comprises an attachment portion and in the first position the attachment portion is positioned outside of the casing and in the second position the attachment portion is positioned within the casing; and at least one magnet configured to pull the cable towards the second position.

[0015] In some examples at least one magnet may be provided on the cable.

[0016] In some examples at least one magnet may be provided on an inner surface of the casing.

[0017] In some examples the at least one magnet may be configured to pull the cable towards the second position when an end of the cable is close to a closed end of the casing.

[0018] In some examples the at least one magnet may be configured to pull the cable towards the first position when an end of the cable is close to an open end of the casing.

[0019] In some examples the cable may comprise contact portions which may be configured to enable the cable to make electronic contact with at least one electronic component. The at least one electronic component may be provided within the casing.

[0020] In some examples the attachment portion may be configured to be attached to another apparatus when the cable is in the first position.

[0021] In some examples the attachment portion may be configured to be completely retained within the casing when the cable is in the second position.

[0022] In some examples the cable may comprise at least a portion coated in polymer.

[0023] In some examples the cable may comprise at least a portion coated in textile.

[0024] The apparatus may be for connecting electronic components to an electronic device. The electronic components may comprise components such as power sources, memories or any other suitable components.

BRIEF DESCRIPTION

[0025] For a better understanding of various examples that are useful for understanding the detailed description, reference will now be made by way of example only to the accompanying drawings in which:

[0026] FIGS. **1**A to **1**C illustrate an apparatus;

[0027] FIGS. **2**A and **2**B illustrate an apparatus;

[0028] FIG. **3** illustrates an apparatus;

[0029] FIG. **4** illustrates an apparatus;

[0030] FIG. **5** illustrates an apparatus;

[0031] FIG. **6** illustrates an apparatus;

[0032] FIGS. **7**A to **7**C illustrate an apparatus;

[0033] FIGS. **8**A to **8**E illustrate an apparatus;

[0034] FIGS. **9**A and **9**B illustrate an apparatus; and

[0035] FIGS. **10**A to **10**C illustrate an apparatus.

DETAILED DESCRIPTION

[0036] The Figures illustrate an apparatus **10** comprising: a casing **15**; a cable **11** configured to be moved between a first position and a second position, wherein the cable **11** comprises an attachment portion **13** and in the first position the attachment portion **13** is positioned outside of the casing **15** and in the second position the attachment portion **13** is positioned within the casing **15**; and a pulling member **21** configured to enable a user to pull the cable **11** from the first position towards the second position.

[0037] The Figures also illustrate an apparatus **10** comprising: a casing **15**; a cable **11** configured to be moved between a first position and a second position, wherein the cable **11** comprises an attachment portion **13** and in the first position the attachment portion **13** is positioned outside of the casing

15 and in the second position the attachment portion 13 is positioned within the casing 15; and at least one magnet 51, 53 configured to pull the cable 11 towards the second position.

[0038] In the following description the term coupled means operationally coupled and any number or combination of intervening elements can exist (including no intervening elements).

[0039] FIGS. 1A to 1C illustrate an apparatus 10 according to examples of the disclosure.

[0040] The example apparatus 10 illustrated in FIG. 1A comprises a casing 15, and a cable 11.

[0041] The cable 11 may comprise a first end and a second end and a mid-portion between the first and second end. The first end of the cable 11 may be retained within the casing 15 and so is not illustrated in FIGS. 1A to 1C. For example the first end of the cable 11 may be fixed to an inner surface of the casing 15. In other examples the first end of the cable 11 may be configured to move within the casing 15.

[0042] In the examples of FIGS. 1A to 1C the mid-portion of the cable 11 extends out of the casing 15. An opening may be provided in the casing 15 which may enable the cable 15 to extend out of the casing.

[0043] The cable 11 comprises an attachment portion 13. The attachment portion 13 may be provided at the second end of the cable 11.

[0044] The attachment portion 13 may comprise any means which may enable the cable 11 to be connected to another apparatus. The another apparatus may comprise, for example, an electronic device 20. The attachment portion 13 may comprise means which may enable an electrical connection to be established between the apparatus 10 and the electronic device 20. For example the attachment portion may be a connector such as a USB (universal serial bus) connector.

[0045] The cable 11 may be configured to connect the attachment portion 13 to the casing of the apparatus 10. The cable 11 may be configured to provide an electrical connection between the attachment portion 13 and electronic components of the apparatus 10.

[0046] In some examples the cable 11 may comprise a flexible portion. The flexible portion may be configured to be bent or twisted. The bends in the flexible portion of the cable 11 may be used to enable the cable 11 to be retracted back into the casing 15.

[0047] The cable 11 may be configured to be moved between a first position and a second position. The cable 11 is illustrated in the first position in FIGS. 1A to 1C. When the cable 11 is in the first position the attachment portion 13 is positioned outside the casing 15. When the cable 11 is in the first position the attachment portion 13 may be connected to another apparatus such as an electronic device 20.

[0048] When the cable 11 is in the second position the attachment portion 13 may be positioned within the casing 15. When the cable 11 is positioned within the casing 15 then the attachment portion 13 may be positioned relative to the casing 15 so that it cannot be connected to another apparatus such as an electronic device 20. When the cable 11 is positioned within the casing 15 the attachment portion 13 may be hidden by the casing 15 so that the attachment portion 13 cannot be seen. In some examples, when the cable 11 is in the second position the attachment portion 13 may be completely retained within the casing 15.

[0049] The cable 11 may comprise a coating which may reduce the friction between the cable 11 and the casing 15 as the cable 11 is moved between the first and second positions. This may make it easier for the user to move the cable 11 between the first and second positions. For example in some embodiments the cable 11 may comprise a polymer coating such as a Teflon coating and/or the cable 11 may comprise a textile coating.

[0050] The casing 15 may house electronic components such as power source or memory or any other suitable components. The casing 15 may provide a protective housing for the components of the apparatus 10. The casing 15 may protect the components of the apparatus 10 from the ingress of fluid and/or dirt and may also provide protection from physical impacts.

[0051] FIGS. 1B and 1C illustrate the apparatus 10 connected to an electronic device 20. In FIG. 1B the cable 11 is arranged in the first position and the attachment portion 13 is connected to a corresponding socket in the electronic device 20. This may enable an electrical connection to be established between the apparatus 10 and the electronic device 20. The electrical connection may enable the transfer of data and/or power between the apparatus 10 and the electronic device 20.

[0052] The electronic device 20 may be for example, a mobile cellular telephone, a personal computer, a camera, a gaming device, a personal digital assistant, an electronic book reader, a personal music player, a tablet computer or any other similar electronic device 20 which may be connected to another apparatus 10 via a cable 11. The electronic device 20 may be a handheld device which can be carried in a user's hand, handbag or pocket of their clothing for example.

[0053] FIG. 1C also illustrates the apparatus 10 connected to an electronic device 20. In FIG. 1C the attachment portion 13 is connected to a socket of the electronic device 20. In the example of FIG. 1C the casing 15 of the apparatus 10 may also be connected to the casing 25 of the electronic device 20. The connection between the casing 15 of the apparatus 10 and the casing 25 of the electronic device 20 may hold the apparatus 10 and the electronic device 20 in position relative to each other. The connection between the casing 15 of the apparatus 10 and the casing 25 of the electronic device 20 might not provide any electrical connection between the apparatus 10 and the electronic device 20.

[0054] FIGS. 2A and 2B illustrate an apparatus 10 according to examples of the disclosure. FIGS. 2A and 2B comprise a plan view of the insides of an apparatus 10.

[0055] The example apparatus 10 illustrated in FIGS. 2A and 2B also comprises a casing 15, cable 11 and an attachment portion 13 as described above.

[0056] The first end of the cable 11 is illustrated in FIGS. 2A and 2B. The first end of the cable 11 may be fixed in position so that the first end of the cable 11 does not move relative to the casing 15. In this example the first end of the cable is secured to an inner side of the casing 15 of the apparatus 10.

[0057] In the example of FIGS. 2A and 2B the first end of the cable 11 is secured to the inner side of the casing 15 at a point adjacent to the opening through which the cable 11 extends. The cable 11 is arranged in a bent configuration so that the attachment portion 13 may be moved through the opening adjacent to the first end of the cable 11. In the example of FIG. 2A a U-shaped bend is provided in the cable 11. It is to be appreciated that in other examples the cable 11 may be bent into a different shape.

[0058] The apparatus 10 of FIGS. 2A and 2B also comprises a power source 17. In this example the power source 17

comprises a battery. It is to be appreciated that in other examples the power source **17** may comprise any suitable means for enabling power to be provided to an electronic device **20** via the cable **11**. It is also to be appreciated that the apparatus **10** may comprise additional or alternative components such as one or more memories or any other suitable components.

[0059] As described above the cable **11** may be configured to be moved between a first position and a second position. The cable **11** is illustrated in the first position in FIG. **2**A. When the cable **11** is in the first position the attachment portion **13** is positioned outside the casing **15** so that the attachment portion **13** may be connected to an electronic device **20**.

[0060] The cable **11** is illustrated in the second position in FIG. **2**B. When the cable **11** is in the second position the attachment portion **13** may be positioned within the casing **15**. In the example of FIG. **2**B the attachment portion **13** is retained completely within the casing **15**. In some examples a locking portion may be provided which may enable the attachment portion **13** to be held in position within the casing **15**.

[0061] The apparatus **10** of FIGS. **2**A and **2**B comprises a pulling member **21**. The pulling member **21** may comprise any means which may be configured to enable a user of the apparatus **10** to pull the cable **11** from the first position toward the second position.

[0062] The pulling member **21** may be connected to the cable **11**. The pulling member **21** may comprise a portion which is located outside of the casing **15**. The casing **15** may comprise an opening through which the pulling member **21** may extend. In this example the opening for the pulling member **21** may be located on an opposite side of the casing **15** to the opening for the cable **11**.

[0063] In the example of FIGS. **2**A and **2**B the pulling member **21** comprises a strap **23** which is connected to the cable **11**. The strap **23** may comprise a flexible member which may be gripped and pulled by the user of the apparatus **10**.

[0064] The strap **23** may be connected to the cable by any suitable means. FIGS. **3** to **5** illustrate examples of means for connecting the strap **23** to the cable **11** in more detail.

[0065] When the cable **11** is in the first position as illustrated in FIG. **2**A a first portion **24** of the strap **23** is located within the casing **15** and a second portion **26** of the strap **23** is located outside of the casing **15**. The first portion **24** of the strap **23** may be connected to the cable **11**.

[0066] The second portion **26** of the strap **23** may be configured so that a user can grip the second portion **26** of the strap **23**. For example, in FIG. **2**A the second portion **26** of the strap **23** comprise a handle or portion that may be gripped by the user.

[0067] When the cable **11** is in the second position as illustrated in FIG. **2**B both the first portion **24** of the strap **23** and the second portion **26** of the strap **23** may be located outside of the casing **15**.

[0068] The user may move the cable **11** from the first position illustrated in FIG. **2**A towards the second position as illustrated in FIG. **2**B by pulling on the pulling member **21**. A user may pull on the pulling member **21** by applying a force towards the direction indicated by the arrow **29**.

[0069] As the pulling member **21** is connected to the cable **11** when the pulling member **21** is pulled towards the direction of the arrow **29** this also pulls the cable **11** into the casing **15**. The user may be able to pull the pulling member **21** until the attachment portion **13** of the cable **11** is arranged into the second position. The user may be able to pull the pulling member **21** until the attachment portion **13** of the cable **11** is retained within the casing **15**.

[0070] The user may move the cable **11** from the second position illustrated in FIG. **2**B towards the first position as illustrated in FIG. **2**A by pulling on the cable **11** and/or attachment portion **13**. A user may pull on the cable **11** and/or attachment portion **13** by applying a force towards the direction indicated by the arrow **31**.

[0071] As the cable **11** is connected to the pulling member **21** when the cable **11** is pulled towards the direction of the arrow **31** this pulls the cable **11** out of the casing **15** and also pulls the first portion **24** of the strap **23** into the casing **15**. The user may be able to pull the cable **11** until the cable **11** is arranged into the first position. The user may be able to pull the cable **11** until the attachment portion **13** of the cable **11** is positioned outside of the casing **15** so that it can be connected to another apparatus.

[0072] FIGS. **3** to **5** illustrate apparatus **10** according to further examples. The apparatus **10** comprises a casing **15**, a cable **11** and attachment portion **13** as described above. The apparatus **10** also comprises a strap **23** as described above in relation to FIGS. **2**A and **2**B. The examples of FIGS. **3** to **5** illustrate various methods of attaching the strap **23** to the cable **11**. It is to be appreciated that other examples may be used in other embodiments.

[0073] In the example of FIG. **3** the strap **23** is connected to the cable by a ring **33**. The ring **33** may comprise any suitable material such as metal or plastic. In the example of FIG. **3** the ring forms a circular loop. It is to be appreciated that other shaped rings may be provided in other examples.

[0074] Both the cable **11** and the strap **23** pass through the opening of the ring **33**. This secures the strap **23** and the cable **11** together. This ensures that when the user pulls on the strap **23** the cable **11** is pulled in the same direction as the strap **23**. The ring **33** also ensures that when the attachment portion **13** is pulled out of the casing **15**, the first portion **23** of the strap **24** is pulled into the casing **15**.

[0075] In the example of FIG. **4** both the cable **11** and the strap **23** comprise a U-shaped bend. The two U-shaped bends are hooked together to secure the strap **23** and the cable **11** together. This ensures that when the user pulls on the strap **23** the cable **11** is pulled in the same direction as the strap **23**. The arrangement of the U-shaped bends also ensures that when the attachment portion **13** is pulled out of the casing **15**, the first portion **23** of the strap **24** is pulled into the casing **15**.

[0076] In the example of FIG. **5** a sleeve **35** is provided on a portion of the cable **11**. The sleeve **35** may be made of any suitable material such as metal or plastic. The sleeve **35** comprises openings **37** though which the strap **23** may be threaded to secure the strap **23** and cable together **11**. The sleeve **35** is configured to ensure that when the user pulls on the strap **23** the cable **11** is pulled in the same direction as the strap **23**. The sleeve **35** also ensures that when the attachment portion **13** is pulled out of the casing **15**, the first portion **23** of the strap **24** is pulled into the casing **15**.

[0077] In some examples the apparatus **10** may comprise means for preventing the user from pulling the strap **23** too far into the casing **15**. The means may also prevent the strap **23** from twisting inside of the casing **15** as twisting of the strap **23** could make it harder for the user to pull the strap **23** back out of the casing **15**. The means may comprise a rib provided in the opening in the casing **15** through which the strap **23**

extends. The rib may be configured so that the strap **23** exits the casing **15** on one side of the rib and bends back into the casing on the other side of the rib.

[0078] FIG. **6** illustrates an apparatus **10** according to another example. The apparatus **10** comprises a casing **15**, a cable **11** and attachment portion **13** as described above.

[0079] In the example of FIG. **6** the first end of the cable **11** is fixed in position so that the first end of the cable **11** does not move relative to the casing **15**. The cable **11** is arranged in a bent configuration with a U-shaped bend provided in the cable **11**.

[0080] In the example of FIG. **6** a spool **41** is provided in the U-shaped bend of the cable **11**. The spool **41** may comprise a cylindrical portion. The U-shaped bend of the cable **11** may extend around the cylindrical portion of the spool **41**.

[0081] The spool **41** may be configured to move linearly within the casing **15**. The spool **41** may be configured to move linearly in the directions indicated by the arrows, **43**, **45**. The spool **41** may be configured to move linearly when the user pulls on the strap **23** and/or the cable **11**.

[0082] The spool **41** may be configured to optimise the shape of the bend in the cable **11**. The shape of the bend may be optimised to reduce the amount of space which the cable **11** takes up inside the casing **15**. In some examples the shape of the bend may be optimised to make it easier for the user to move the cable **11** between the first and second positions.

[0083] FIGS. **7**A to **7**C illustrate an apparatus **10** according to another example. The example apparatus **10** illustrated in FIGS. **7**A to **7**C also comprises a casing **15**, cable **11** and an attachment portion **13** as described above.

[0084] As in the previous examples the cable **11** may be configured to be moved between a first position and a second position. The cable **11** is illustrated in the first position in FIG. **7**A in which the attachment portion **13** is positioned outside the casing **15**. The cable **11** is illustrated in the second position in FIG. **7**B in which the attachment portion **13** may be positioned within the casing **15**.

[0085] In the example of FIGS. **7**A to **7**C the first end of the cable **11** is secured to an inner side of the casing **15** of the apparatus **10**. In the example of FIGS. **7**A to **7**C the first end of the cable **11** is secured to the inner side of the casing **15** at a point adjacent to the opening through which the cable **11** extends. The cable **11** is arranged in a bent configuration so that a U-shaped bend is provided in the cable **11**.

[0086] The apparatus **10** of FIGS. **7**A to **7**C also comprises a pulling member **21**. As described above, the pulling member **21** may comprise any means which may be configured to enable a user of the apparatus **10** to pull the cable **11** from the first position towards the second position.

[0087] In the example of FIGS. **7**A to **7**C the pulling member **21** comprises a portion of the cable **11** which extends out of the casing **15**. The portion of the cable **11** which extends out of the casing **15** may comprise the U-shaped bend portion.

[0088] The casing **15** comprises an opening **49** which is illustrated in FIG. **7**C. The cable **11** is configured to extend through the opening **49** to provide the pulling member **21**. In this example the opening **49** is located on an opposite side of the casing **15** to the opening for the attachment portion of the cable **11**.

[0089] The opening **49** also comprises a rib **48**. The rib **48** may be configured to prevent the user pulling the cable **11** too far into the casing **15**. The rib **48** may be provided so that the cable **11** exits the casing **15** on one side of the rib **48** and bends back into the casing **15** on the other side of the rib **48**.

[0090] The user may move the cable **11** from the first position illustrated in FIG. **7**A towards the second position as illustrated in FIG. **7**B by pulling on the pulling member **21**, which in this example comprises the portion of the cable **11** which extends out of the casing **15**. A user may pull on the pulling member **21** by applying a force towards the direction indicated by the arrow **29**.

[0091] As the pulling member **21** is part of the cable **11** when the pulling member **21** is pulled towards the direction of the arrow **29** this pulls the attachment portion **13** of the cable **11** into the casing **15**. The user may be able to pull the pulling member **21** until the attachment portion **13** of the cable **11** is arranged into the second position. The user may be able to pull the pulling member **21** until the attachment portion **13** of the cable **11** is retained within the casing **15**.

[0092] The user may move the cable **11** from the second position illustrated in FIG. **7**B towards the first position as illustrated in FIG. **7**A by pulling on the end of the cable **11** comprising the attachment portion **13** towards the direction indicated by the arrow **31**.

[0093] As the pulling member **21** is part of the cable **11** this will cause part of the cable **11** to be pulled in to the casing **15**. The rib **48** in the opening of the casing **15** may prevent the user from pulling all of the cable **11** into the casing **15** so that a portion of the cable **11** remains outside the casing **15** to provide the pulling member **21**.

[0094] The user may be able to pull the cable **11** until the cable **11** is arranged into the first position. The user may be able to pull the cable **11** until the attachment portion **13** of the cable **11** is positioned outside of the casing **15** so that it can be connected to another apparatus.

[0095] FIGS. **8**A to SE illustrate an apparatus **10** according to another example. The example apparatus **10** illustrated in FIGS. **8**A to **8**E also comprises a casing **15**, cable **11** and an attachment portion **13** as described above.

[0096] FIGS. **8**A to **8**E illustrate the cable **11** being moved from a second position, in which the attachment portion **13** is positioned within the casing **15** to a first position in which the attachment portion **13** is positioned outside of the casing **15**.

[0097] In the examples of FIGS. **5**A to **8**E the first end of the cable **11** is configured to move within the casing **15**. The movement of the first end of the cable **11** within the casing **15** may enable the cable **15** to be moved between the first position and the second position.

[0098] In the examples of FIGS. **8**A to **8**E the casing **15** comprises a first magnet **51** and a second magnet **53**. The first and second magnets **51** are provided on inner surfaces of the casing **15**. In the particular example of FIGS. **8**A to **8**E the first magnet **51** is provided on a closed end of the casing and the second magnet **53** is provided close to an opening of the casing. The attachment portion **13** of the cable **11** may extend through the opening. The first and second magnets **51**, **53** may be positioned opposite to each other. It is to be appreciated that in other examples other arrangements of magnets may be provided. Different example arrangements of magnets and magnetic portions are illustrated in FIGS. **10**A to **10**C and described below.

[0099] The cable **11** comprises a magnetic portion **55**. The magnetic portion **55** may be provided on the first end of the cable **11**. The magnetic portion **55** may comprise any material which may be subject to a magnet force from the first and second magnets **51**, **53**. For example, the magnetic portion may comprise a ferrous material such as iron or steel.

[0100] The cable **11** may also comprise one or more connection portions **61**. The connection portions **61** may be configured to enable the cable to make electronic contact with at least one electronic component when the cable **11** is in the first position. The connection portions **61** may be configured to connect to corresponding connection portions **65** provided within the casing **15**. The connection portions **65** of the casing **15** may be located close to the opening through which the cable **11** extends.

[0101] In FIG. **8**A the cable **11** is provided in the second position and the attachment portion **13** is provided within the casing **15**. The attachment portion **13** may be retained completely within the casing **15**.

[0102] In the arrangement of FIG. **8**A the magnetic portion **55** of the cable **11** is positioned adjacent to the first magnet **51** of the casing **15**. The first magnet **51** provides an attractive force which acts to pull the magnetic portion **55** of the cable **11** towards the first magnet **51** as indicated by the arrow **71**. This acts to hold the cable **11** in the second position.

[0103] In FIG. **8**B a user begins to move the cable **11** from the second position towards the first position. The user may move the cable **11** by pulling on the attachment portion **13** of the cable **11**. For example, the user may apply a force in the direction indicated by the arrow **73**.

[0104] The force applied by the user pulls the magnetic portion **55** of the cable away from the first magnet **51** so that the first end of the cable **11** moves within the casing **15** towards the second magnet **53**.

[0105] In FIG. **8**C the user has continued to apply the force indicated by the arrow **73** so that the first end of the cable **11** has reached the midpoint of the casing **15**. The midpoint of the casing **15** is indicated by the arrows **50** in FIGS. **8**A to **8**E. At the midpoint of the casing **15** the forces from the first magnet **51** and the second magnet **53** upon the magnetic portion **55** may be balanced so that without any additional external force the magnets **51**, **53** would not cause motion of the magnetic portion **55**. If the user pulls the magnetic portion **55** to the right of the midpoint then the magnetic portion **55** may be closer to the second magnet **53** than the first magnet **51**. The force acting on the magnetic portion **55** from the second magnet **53** may be stronger than the force acting on the magnetic portion **55** from the first magnet **51**. This may cause the magnetic portion **55** to be pulled towards the second magnet **53** and so may pull the cable **11** towards the first position.

[0106] Similarly, if the user were to push the magnetic portion **55** to the left of the midpoint then the magnetic portion **55** would be closer to the first magnet **51** than the second magnet **53**. The force acting on the magnetic portion **55** from the first magnet **51** would be stronger than the force acting on the magnetic portion **55** from the second magnet **53**. This may cause the magnetic portion **55** to be pulled towards the first magnet **51** and so may pull the cable **11** towards the second position.

[0107] In FIG. **8**D the user has pulled the magnetic portion **55** to the right of the midpoint so that the magnetic portion **55** is closer to the second magnet **53** than the first magnet **51**. The second magnet **53** provides an attractive force which acts to pull the magnetic portion **55** of the cable **11** towards the second magnet **53** as indicated by the arrow **75**.

[0108] In FIG. **8**E the second magnet **53** has pulled the magnetic portion **55** towards the second magnet **53** so that the cable **11** is provided in the first position and the attachment portion **13** can be connected to another apparatus.

[0109] When the cable **15** is in the first position the connection portions **61** of the first end of the cable **11** may make electronic contact with the connection portions **65** of the casing **15**. This may enable electronic contact to be made between the cable **11** and the other components within the casing **15**.

[0110] When the cable **11** is in the first position the second magnet **53** provides an attractive force which acts to pull the magnetic portion **55** of the cable **11** towards the second magnet **53**. This acts to hold the cable **11** in the first position and ensures that a reliable connection is established between the connection portions **61** of the first end of the cable **11** and the connection portions **65** of the casing **15**.

[0111] It is to be appreciated that a user may return the cable **11** to the second position by pushing the cable **11** until the magnetic portion **55** of the cable is located close enough to the first magnet **51** so that the first magnet **51** can pull the cable **11** back to the second position.

[0112] FIGS. **9**A and **9**B illustrate an apparatus **10** according to another example. The example apparatus **10** illustrated in FIGS. **9**A to **9**B also comprises a casing **15**, cable **11** and an attachment portion **13** as described above.

[0113] In the example of FIGS. **9**A and **9**B the cable **11** is flexible and is configured to be bent multiple times. In the particular example of FIGS. **9**A and **9**B the cable **11** is configured to be bent in a series of sharp turns in alternating directions to create a zigzag shape. The zigzag shape enables the cable **11** to be folded down to a small size so that it does not take up very much space within the casing **15**.

[0114] The examples provide for a cable **11** which may be easily extracted and retracted from a casing **15**.

[0115] The pulling members **21** and respective magnets **51**, **53** may be arranged so that the cable **11** can be easily pulled back into the casing **15** and removed whenever needed.

[0116] In some examples, the cable **11** may be completely retained within the casing **15** so that there are no external attachment portions to the apparatus **10**. This may improve the aesthetics of the apparatus **10** when it is not in use.

[0117] The cable **11** may be arranged so that it takes up a minimal amount of space within the casing **15**.

[0118] The term 'comprise' is used in this document with an inclusive not an exclusive meaning. That is any reference to X comprising Y indicates that X may comprise only one Y or may comprise more than one Y. If it is intended to use 'comprise' with an exclusive meaning then it will be made clear in the context by referring to "comprising only one" or by using "consisting".

[0119] In this detailed description, reference has been made to various examples. The description of features or functions in relation to an example indicates that those features or functions are present in that example. The use of the term "example" or "for example" or "may" in the text denotes, whether explicitly stated or not, that such features or functions are present in at least the described example, whether described as an example or not, and that they can be, but are not necessarily, present in some of or all other examples. Thus "example", "for example" or "may" refers to a particular instance in a class of examples. A property of the instance can be a property of only that instance or a property of the class or a property of a sub-class of the class that includes some but not all of the instances in the class.

[0120] Although examples of the present disclosure have been described in the preceding paragraphs with reference to various examples, it should be appreciated that modifications

to the examples given can be made without departing from the scope of the claims. For instance, in the above described examples two magnets are provided within the casing. In other examples one magnet may be provided on the cable which may be attracted to magnetic portions within the casing.

[0121] FIGS. **10**A to **10**C schematically illustrate apparatus **10** with different example arrangements of magnets and magnetic portions.

[0122] The apparatus **10** comprises a cable **11** which can be moved between a first and second position relative to a casing **15** as described above. The casing **15** comprises a closed end **100** and an open end **110**. The cable **11** may extend through the open end **110**. In the examples of FIGS. **10**A to **10**C the end of the cable **11** is positioned at the mid-point of the casing **15** as indicated by the arrows **50**. It is to be appreciated that the end of the cable **11** may move between the ends **100**, **110** of the casing **15**.

[0123] In the example of FIG. **10**A a first metal portion **101** is provided adjacent to the closed end **100** and a second metal portion **103** is provided adjacent to the open end **110**. A magnet **105** is provided on the cable **11** and arranged so that the magnet **105** can move between the two metal portions **101**, **103** as indicated by the arrow **120**.

[0124] In the example of FIG. **10**B a first magnet **111** is provided adjacent to the closed end **100** and a second magnet **113** is provided adjacent to the open end **110**. A metal portion **115** is provided on the cable **11** and arranged so that the metal portion **115** can move between the two magnets **111**, **113** as indicated by the arrow **120**.

[0125] In the example of FIG. **10**C a first magnet **121** is provided adjacent to the closed end **100** and a second magnet **123** is provided adjacent to the open end **110**. A third magnet **125** is provided on the cable **11** and arranged so that the third magnet **125** can move between the first and second magnets **121**, **123** as indicated by the arrow **120**.

[0126] It is to be appreciated that different arrangements of magnets and metal or magnetic portions may be selected for use in different examples of the apparatus **10**. The factors which may influence the selection of the magnetic arrangement may include the space available within the casing **15**, the holding power required to hold the cable **11** in position and the effect of the magnetic flux on other components in or near the apparatus **10** or any other suitable factor.

[0127] Features described in the preceding description may be used in combinations other than the combinations explicitly described.

[0128] Although functions have been described with reference to certain features, those functions may be performable by other features whether described or not.

[0129] Although features have been described with reference to certain embodiments, those features may also be present in other embodiments whether described or not.

[0130] Whilst endeavoring in the foregoing specification to draw attention to those features believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and/or shown in the drawings whether or not particular emphasis has been placed thereon.

[0131] I/we claim:

1. An apparatus comprising:
a casing;
a cable configured to be moved between a first position and a second position, wherein the cable comprises an attachment portion and in the first position the attachment portion is positioned outside of the casing and in the second position the attachment portion is positioned within the casing; and
a pulling member configured to enable a user to pull the cable from the first position towards the second position.

2. An apparatus as claimed in claim **1** wherein at least a portion of the pulling member is located outside of the casing.

3. An apparatus as claimed in claim **1** wherein the pulling member comprises at least one of a portion of the cable which extends out of the casing, a strap which is connected to the cable.

4. (canceled)

5. An apparatus as claimed in claim **5** wherein the cable is configured to be moved from the second position towards the first position by a user pulling the cable.

6. An apparatus as claimed in claim **5** wherein the pulling member is configured so that when the cable is moved from the second position towards the first position at least a portion of the pulling member is moved into the casing.

7. An apparatus as claimed in claim **1** wherein the cable comprises a flexible member.

8. An apparatus as claimed in claim **7** wherein the cable is arranged so that the flexible member comprises a bend portion.

9. An apparatus as claimed in claim **8** wherein a spool is provided in the bend portion.

10. An apparatus as claimed in claim **9** wherein the spool is configured to move linearly within the casing as the cable moves between the first and second position.

11. An apparatus as claimed in claim **1** wherein the attachment portion is configured to be attached to another apparatus when the cable is in the first position.

12. An apparatus as claimed in claim **1** wherein the attachment portion is configured to be completely retained within the casing when the cable is in the second position.

13. An apparatus as claimed in claim **1** wherein the cable comprises at least a portion coated in at least one of polymer, textile.

14. (canceled)

15. An apparatus comprising:
a casing;
a cable configured to be moved between a first position and a second position, wherein the cable comprises an attachment portion and in the first position the attachment portion is positioned outside of the casing and in the second position the attachment portion is positioned within the casing; and
at least one magnet configured to pull the cable towards the second position.

16. An apparatus as claimed in claim **15** wherein at least one magnet is provided on the cable.

17. An apparatus as claimed in claim **15** wherein at least one magnet is provided on an inner surface of the casing.

18. An apparatus as claimed in claim **15** wherein the at least one magnet is configured to pull the cable towards the second position when an end of the cable is close to a closed end of the casing.

19. An apparatus as claimed in claim **15** wherein the at least one magnet is configured to pull the cable towards the first position when an end of the cable is close to an open end of the casing.

20. An apparatus as claimed in claim **15** wherein the cable comprises contact portions which are configured to enable the cable to make electronic contact with at least one electronic component provided within the casing.

21. (canceled)

22. An apparatus as claimed in claim **15** wherein the attachment portion is configured to be attached to another apparatus when the cable is in the first position.

23. An apparatus as claimed in claim **15** wherein the attachment portion is configured to be completely retained within the casing when the cable is in the second position.

24. (canceled)

25. (canceled)

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