US 20110226823A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2011/0226823 A1**

(43) **Pub. Date: Sep. 22, 2011**

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(54) **RETRACTABLE LANYARD FOR SECURING PERSONAL MULTIMEDIA DEVICES**

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(21) Appl. No.: **12/727,367**

(22) Filed: **Mar. 19, 2010**

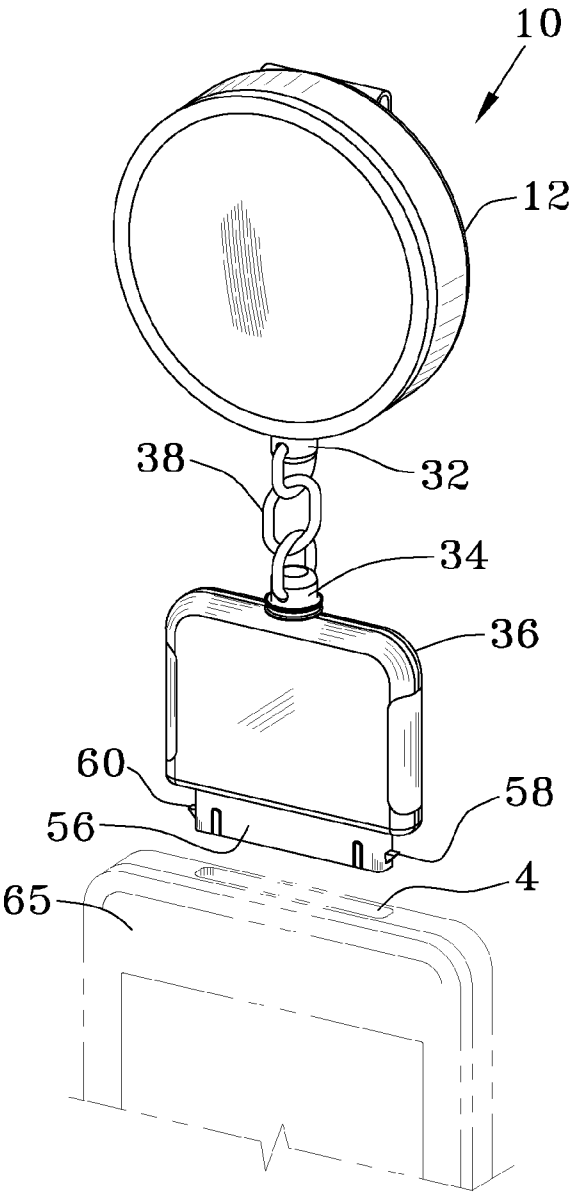
Publication Classification

(51) **Int. Cl.**
A45F 5/00 (2006.01)

(52) **U.S. Cl.** **224/162**

(57) **ABSTRACT**

A retractable lanyard assembly connects directly to the docking port of a personal multimedia device, eliminating the potential entanglement of the device via external connecting points, while protecting the docking port from foreign objects, dust, and moisture. The lanyard assembly can be secured to various static objects including a belt; thus, securing the personal multimedia devices to the owner and protecting it from theft, loss, or damage due to dropping.



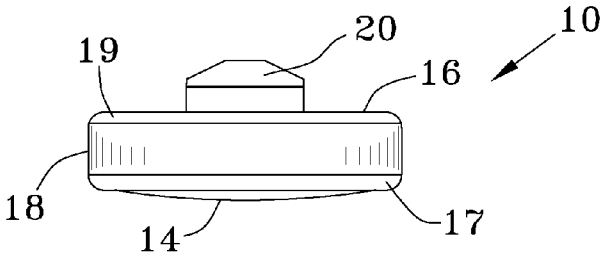


FIG. 1

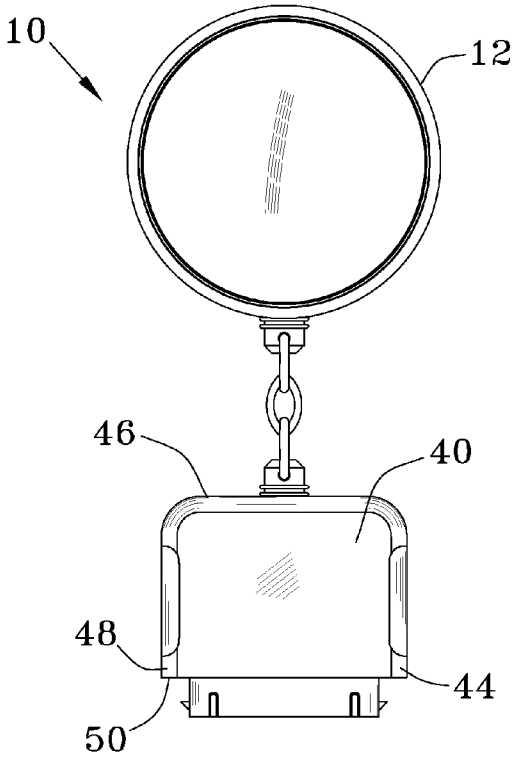


FIG. 2

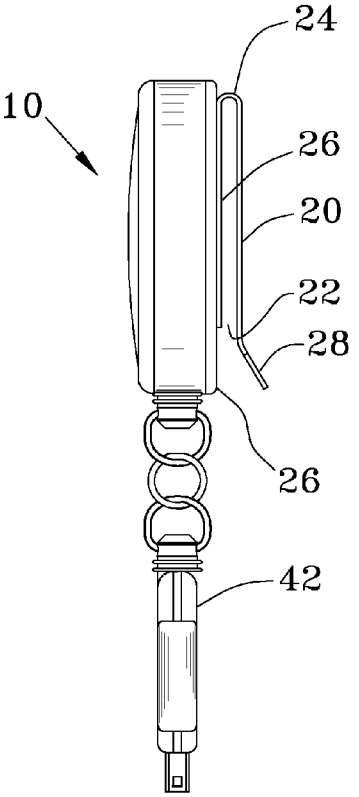


FIG. 3

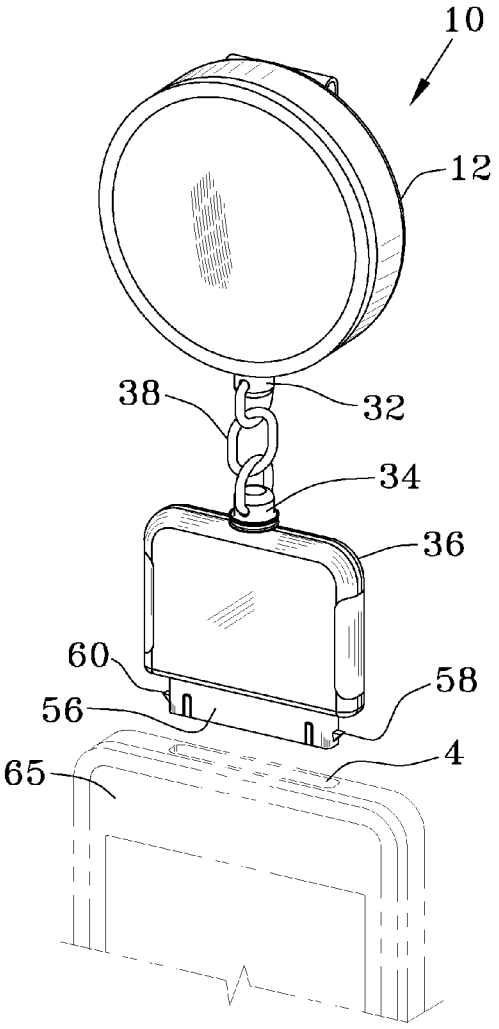


FIG. 4

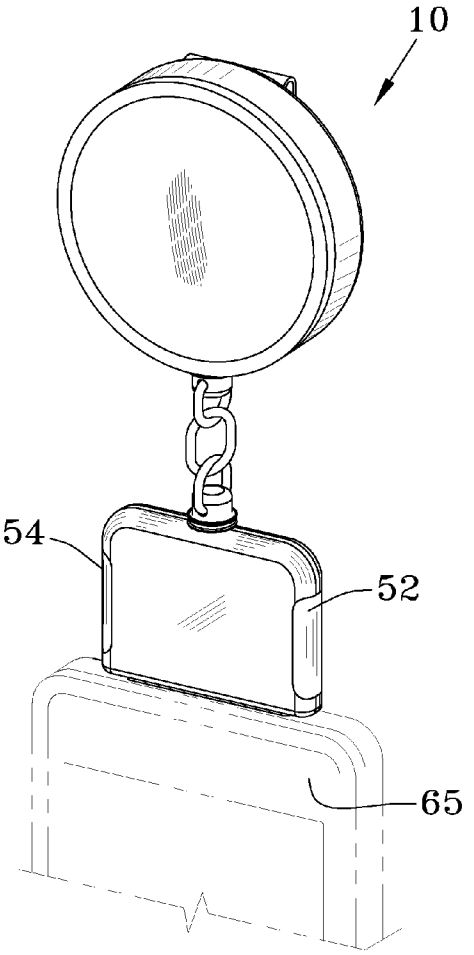


FIG. 5

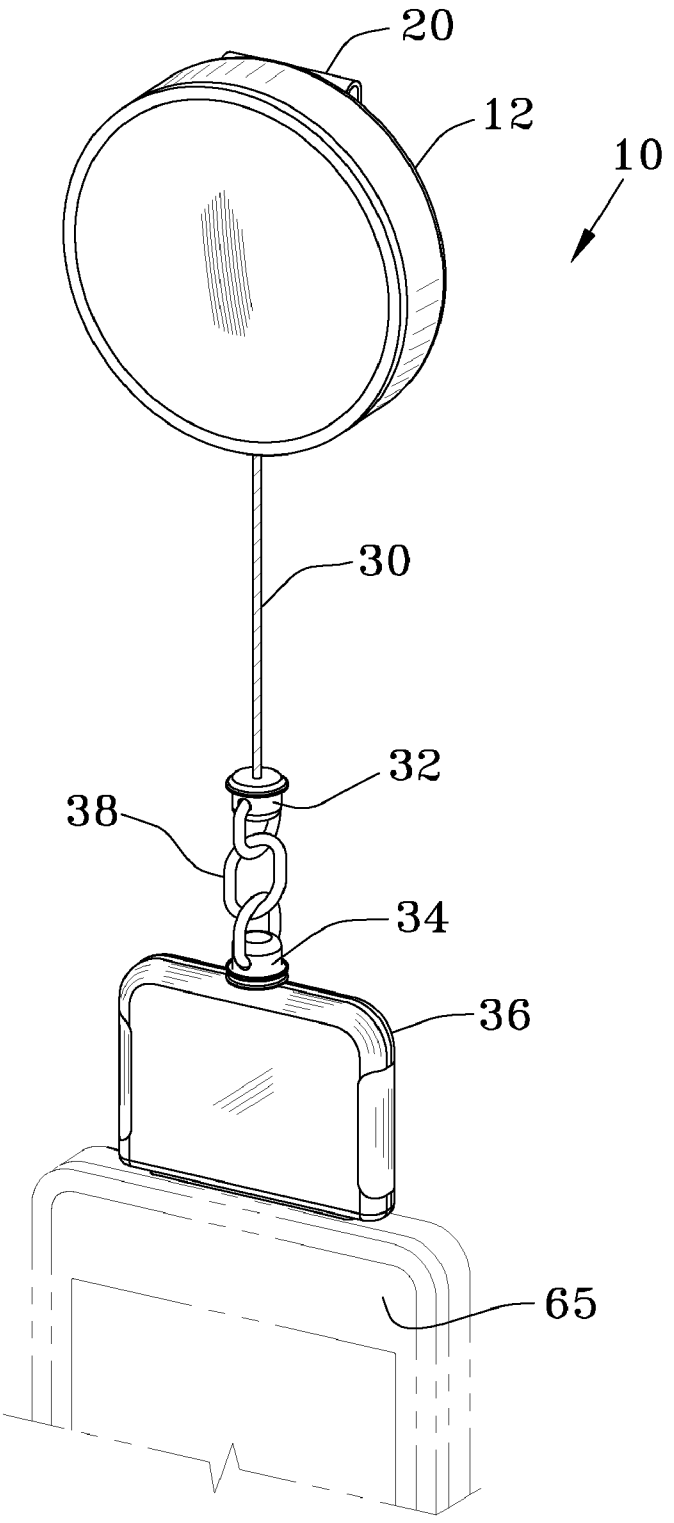


FIG. 6

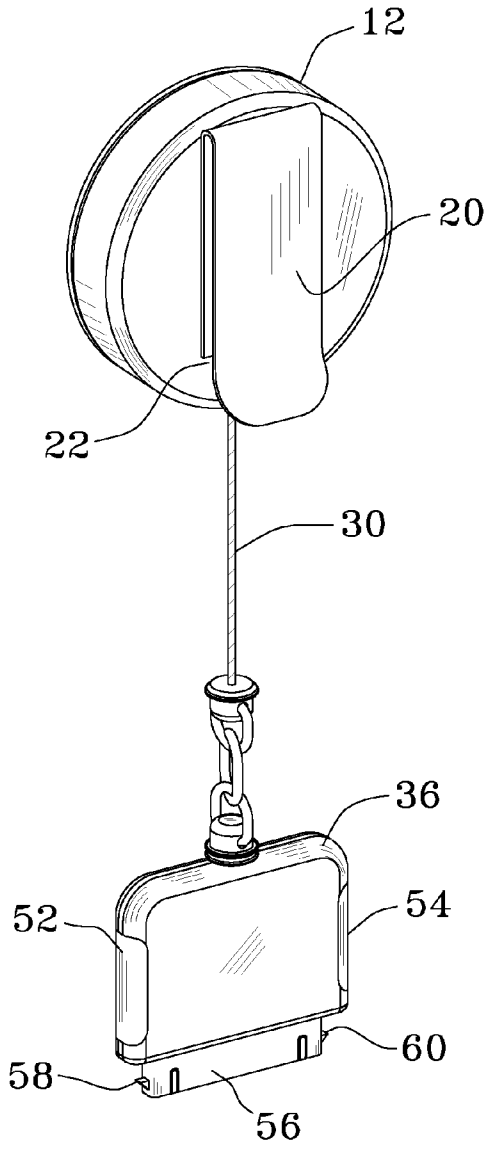


FIG. 7

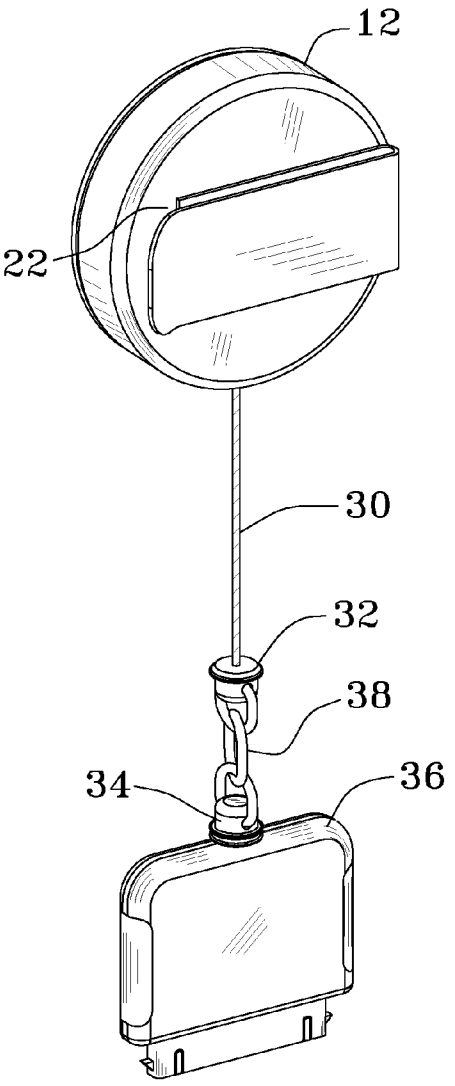


FIG. 8

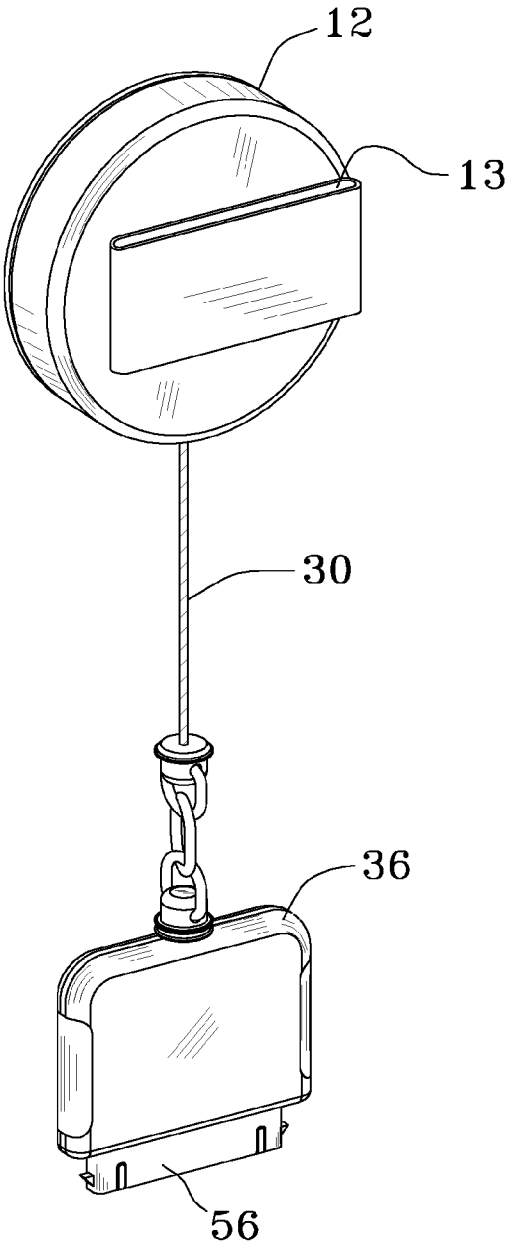


FIG. 9

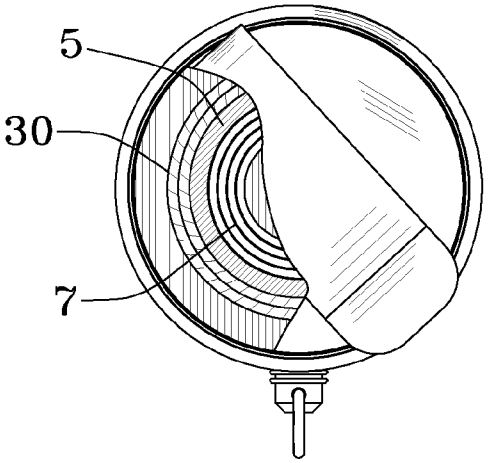


FIG. 10

RETRACTABLE LANYARD FOR SECURING PERSONAL MULTIMEDIA DEVICES

BACKGROUND OF THE INVENTION

[0001] The present invention relates generally to lanyards. More particularly, the present invention relates to the retractable connection of a lanyard to a personal multimedia device.

[0002] Today, cell phones do more than just place and receive calls. Advanced capabilities such as Internet access, email, video shooting and storage, photograph shooting and storage, and music playing and storage of today's multimedia smartphones are quickly making these devices highly coveted by non-owners and highly guarded by owners.

[0003] Small, lightweight, and expensive, it is advantageous to keep personal multimedia devices close to the owner, making it easier for the owner to access the device and protect it from loss, theft, or inadvertent damage due to dropping. A simple solution to prevent damage, loss, or theft of these devices has been the use of a lanyard.

[0004] Especially popular are Apple's® personal multimedia devices, such as the Iphone™ and the Ipod®. These devices are equipped with a port, by which the device can be connected to any number of external sources; for example, for charging or syncing of the device. A 30-pin dock connector is used to connect the multimedia device to an external resource. Since the port, that receives the 30-pin connector is how the multimedia device is linked to an external source both mechanically and electronically, it is extremely important to keep it clean, dry, and protected from inadvertent damage from foreign objects.

[0005] A known lanyard assembly described in U.S. Pat. No. 7,354,304 involves the use of a two-part inter-locking housing that is permanently affixed to the multimedia device. Disadvantageously, this approach creates a point of interference where the electronic device can be caught or snagged, possibly resulting in damage to the device.

SUMMARY OF THE INVENTION

[0006] In accordance with the invention, a retractable lanyard system attaches to a personal multimedia device via a dock connector; thus, eliminating all externally mounted connection assemblies on the multimedia device required by the prior art to receive the lanyard connection. Possible entanglement of the device via externally mounted connection assemblies, or connection points to the multimedia device are completely circumvented, and additionally, the port for receiving the 30-pin connector is kept clean, dray and protected from inadvertent damage.

[0007] The subject matter of the present invention is particularly pointed out and distinctly claimed in the concluding portion of this specification. However, both the organization and method of operation, together with further advantages and objects thereof, may best be understood by reference to the following description taken in connection with accompanying drawings wherein like reference characters refer to like elements. Other objects, features and aspects of the present invention are discussed in greater detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. **1** is a top view of the of the lanyard assembly;

[0009] FIG. **2** is a front view of the lanyard assembly;

[0010] FIG. **3** is a side view of the lanyard assembly;

[0011] FIG. **4** is a front perspective view of the lanyard assembly about to engage a personal multimedia device;

[0012] FIG. **5** is a front perspective view of the lanyard assembly engaged with a personal multimedia device;

[0013] FIG. **6** is a front perspective view of the lanyard assembly engaged with a personal multimedia device wherein the lanyard is partially extended;

[0014] FIG. **7** is a back perspective view of the lanyard assembly engaged with a personal multimedia device wherein the lanyard is partially extended;

[0015] FIG. **8** is a back perspective view of a first alternate embodiment of the lanyard assembly engaged with a personal multimedia device wherein the lanyard is partially extended;

[0016] FIG. **9** is a back perspective view of a second alternate embodiment of the lanyard assembly engaged with a personal multimedia device wherein the lanyard is partially extended; and

[0017] FIG. **10** is a front partial cut-away view of the housing of the lanyard assembly.

DETAILED DESCRIPTION

[0018] Referring to FIGS. **1-3**, the lanyard assembly **10** of the present invention is shown. The assembly includes a cylindrical housing **12**. The housing **12** has a front convex surface **14**, a back planar surface **16**, a peripheral edge **18** a front beveled edge **17** and a back beveled edge **19**.

[0019] The internal chamber of the cylindrical housing **12** is illustrated in FIG. **10**. As is well know in the art, the internal chamber of the cylindrical housing **12** contains a self-winding reel **5** of which is wound a lanyard **30**. One end of the lanyard **30** is connected to the reel periphery, while the free end terminates through the peripheral edge **18** of the housing in an attachment fixture **32**. The self-winding reel **5** includes a spiral spring **7** which allows the lanyard **30** to be extended away from the housing **12** and rapidly retracted to the housing **12** upon its release. Although not illustrated, a locking mechanism to stop the self-winding reel **5**, as is well know in the art is also housed within cylindrical housing **12**.

[0020] For all embodiments described it this disclosure the exterior of housing **12** is cylindrical in shape as is common for reel or spool housings to reflect the cylindrical shape of the reel or spool they house. However, it is important to note that the exterior shape is not limited to cylindrical embodiments but instead could take any number of shapes depending on the desired aesthetic.

[0021] Looking a FIG. **3** a clip **20** with an open end **22** and a closed end **24** is affixed to the back surface **16** of housing **12**. The clip **20** lies vertically along back surface **16** such that open end **22** resides above and parallel to lanyard **30** (See FIGS. **6-9**). Clip **20** is formed of a single piece of spring steel bent to form a first leg **26** and a second parallel spaced leg **28**. Clip **20** is affixed to back surface **16** via first leg **26**. For all embodiments described herein clip **20** is affixed to back surface **16** of housing **12** mechanically or chemically. Second leg **28** is bent at open end **22** away from the housing **12** as to facilitate the passage of clip **20** over a static item, such as a belt.

[0022] Along peripheral edge **18** (FIG. **1**) is an orifice (not visible) through which lanyard **30** exits housing **12** and terminates in first attachment fixture **32** (FIG. **4**). First attachment fixture **32** is coupled to a second attachment fixture **34** on dock connector **36** via coupling ring **38**. Second attachment fixture **34** is affixed to dock connector **36** mechanically or chemically. First attachment fixture **32** and second attach-

ment fixture **34** are mechanically interconnected to form a swivel connection means. Although, depicted with the above described configuration (i.e., coupled via coupling ring **38**), it is well known in the art that a plethora of equivalent swivel connection means may be substituted. Dock connector **36** is a 30-pin connector that is matingly engageable with the dock port **41** of most Apple® personal multimedia devices.

[0023] Looking at FIGS. **4** and **5** it can be seen that when the lanyard **30** is in its wound position, only the attachment fixture **32** is visible since almost the entire length of lanyard **30** is contained within housing **12**, as it is wound around the self-winding reel. FIGS. **6-9** show the lanyard **30** in an extended position. Lanyard **30**, is an inelastic steel wire wrapped in vinyl, which supports the weight of the personal multimedia device **65** and is 15-35 inches in length. The self-winding reel **5** located within housing **12** opposes the extension of lanyard **30** with such a force as to retract lanyard **30** to its wound position even when dock connector **36** is secured to a personal multimedia device as illustrated in FIG. **5**.

[0024] Dock connector **36** is generally a rectangular prism with a front face **40** and a back face **42**, a first side face **44**, top face **46**, and second side face **48** and bottom face **50** as is shown in FIGS. **2** and **3**. First side face **44**, top face **46**, and second side face **48** appear as to form a continuous, rounded peripheral edge to dock connector **36**. Residing on and flush with first side face **44** is a first engagement button **52**. Residing on and flush with second side face **48** is a second engagement button **54**. Protruding from, and generally perpendicular to top face **46** is second attachment fixture **34**. Protruding from and generally perpendicular to bottom face **50**, is a 30-pin assembly **56**, which is well know in the art.

[0025] The 30-pin assembly includes a first retractable retention tab **58**, and a second retractable retention tab **60**. First retractable retention tab **58** is mechanically connected to first engagement button **52**, and second retractable retention tab **60** is mechanically connected to second engagement button **54**, such that when first engagement button **52** is depressed, first retractable retention tab **58** retracts into 30-pin assembly **56**. Likewise, when second engagement button **54** is depressed second retractable retention tab **60** retracts into 30-pin assembly **56**. Tabs **58** and **60** have an outward force constantly applied to them such that their resting position is with them extending perpendicularly from 30-pin assembly **56**. When both tabs **58** and **60**, are retracted, the sliding engagement of the 30-pin assembly **56** with dock port **41** is possible. Although not illustrated, dock port **41** contains a comb which matingly engages 30-pin assembly **56**, making the connection more rigid, as well as making the electrical connection with other external resources possible. Once 30-pin assembly **56** is completely inserted within dock port **41**, both first and second engagement buttons **52** and **54** can be deployed within dock port **41**, mechanically securing the personal multimedia device **65** to the lanyard assembly, as can be seen in FIGS. **4** and **5**, by releasing the pressure on first and second engagement buttons **52** and **54**.

[0026] FIG. **7** illustrates the preferred embodiment of this invention, where open end **22** of clip **20** resides generally parallel to lanyard **30**, when lanyard **30** is extended (pulled) down from housing **12**. In operation, open end **22** would be placed over a static object, a belt for example (that is, while an individual is wearing the belt), such that convex surface **14** faces away from the individual wearing the belt. The 30-pin assembly **56** of dock connector **36** is now ready to be secured to personal multimedia device **65** by depressing first and second engagement buttons **52** and **54**, completely inserting 30-pin assembly **56** into dock port **41** of multimedia device **65** such that bottom face **50** of dock connector **36** resides flush with multimedia device **65**. Once bottom face **50** of dock connector **36** resides flush with multimedia device **65**, first and second engagement buttons **52** and **54** can be released. Personal multimedia device **65** is now secured to an individual. Once secured, the individual is free to move around and the multimedia device simply hangs from the individual's belt.

[0027] FIG. **8** illustrates a first alternate embodiment of lanyard assembly **10** in which open end **22** of clip **20** resides generally perpendicular to lanyard **30**, when lanyard **30** is extended (pulled) down from housing **12**. This embodiment would be well suited for securing the lanyard assembly **10** to a belt loop, for example.

[0028] FIG. **9** is a second alternate embodiment of lanyard assembly **10** in which clip **20** is replaced with enclosed stainless steel loop **23**. This embodiment is ideal for secure attachment of lanyard assembly **10** around a belt. The non-buckle end of a belt is simply slid through loop **23**. The belt is then buckled around the wearer's waist and the lanyard assembly is securely fastened to the wearer via his/her belt.

What is claimed is:

1. A lanyard assembly comprising:
- a housing defining an interior chamber;
- a self-winding reel disposed within said internal chamber;
- a lanyard having a first end connected to said reel and a second end terminating in a first attachment fixture outside said housing;
- a second attachment fixture;
- a coupling ring interconnecting said first attachment fixture with said second attachment fixture;
- a dock connector affixed to said second attachment fixture; and
- a clip affixed to said housing.

2. The lanyard assembly of claim **1** wherein said housing is further comprises:
- a front surface;
- a back surface; and
- a peripheral edge, wherein said clip is affixed to said back planar surface.

3. The lanyard assembly of claim **2** wherein said clip further comprises;
- an open end;
- a closed end;
- a first leg; and
- a second leg, wherein said first leg is affixed to said back planar surface and wherein said second leg resides parallel to said first leg.

4. The lanyard assembly of claim **1** wherein said dock connector is generally a rectangular prism and further comprises;
- a front face;
- a back face;
- a first side face;
- a second side face;
- a top face;
- a bottom face;
- a first engagement button;
- a second engagement button;

a 30-pin assembly;

a first retractable retention tab; and

a second retractable retention tab.

5. The lanyard assembly of claim **4** wherein said first engagement button resides on said first side face and wherein said second engagement button resides on said second side face.

6. The lanyard assembly of claim **5** wherein said 30 pin assembly protrudes generally perpendicularly from said bottom face of said dock connector, and wherein said first retractable retention tab and said second retractable retention tab extend normally from said 30 pin assembly.

7. The lanyard assembly of claim **6** wherein said first engagement button corresponds to said first retractable retention tab such that when first engagement button is depressed, said first retractable retention tab retracts; and

wherein said second engagement button corresponds to said second retractable retention tab such that when said engagement button is depressed, said second retractable retention tab retracts.

8. A lanyard assembly comprising:

a housing, comprising a front surface, a back surface, and a peripheral edge, defining an interior chamber, wherein a self-winding reel is disposed within said internal chamber;

a lanyard having a first end connected to said reel and a second end terminating in a first attachment fixture outside said housing, wherein said first attachment fixture resides perpendicular to said peripheral edge;

a second attachment fixture;

a swivel means connecting said first attachment fixture with said second attachment fixture;

a dock connector affixed to said second attachment fixture comprising a front face, a back face, a first side face, a second side face, a top face, a bottom face, a first engagement button, a second engagement button, a 30-pin assembly, a first retractable retention tab, and a second retractable retention tab, wherein said first engagement button resides on said first side face and said second engagement button resides on said second side face, and wherein said 30-pin assembly protrudes generally perpendicularly from said bottom face of said dock connector, and wherein said first retractable retention tab and said second retractable retention tab extend normally from said 30-pin assembly; and

a clip comprising an open end, a closed end, a first leg, and a second leg, wherein said first leg is affixed to said back planar surface and wherein said second leg resides parallel to said first leg, and wherein said second leg is partially bent at said open end away from said first leg.

9. The lanyard assembly of claim **8** wherein said swivel means is a coupling ring.

10. The lanyard assembly of claim **8** wherein said lanyard is composed of a flexible steel coated in plastic.

11. The lanyard assembly of claim **8** wherein said lanyard is between 15-35 inches in length.

12. The lanyard assembly of claim **10** wherein said lanyard is between 15-35 inches in length.

13. The lanyard assembly of claim **9** wherein said clip is comprised of spring steel.

14. The lanyard assembly of claim **9** wherein said open end of said clip resides parallel to said first attachment fixture.

15. The lanyard assembly of claim **9** wherein said open end of said clip resides perpendicular to said first attachment fixture.

16. A lanyard assembly comprising:

a cylindrical housing, comprising a front convex surface, a back planar surface, a peripheral edge, a front beveled edge, and a back beveled edge defining an interior chamber, wherein a self-winding reel is disposed within said internal chamber;

a lanyard having a first end connected to said reel and a second end terminating in a first attachment fixture outside said housing, and a length of 15-35 inches, wherein said first attachment fixture resides perpendicular to said peripheral edge;

a second attachment fixture;

a swivel means interconnecting said first attachment fixture with said second attachment fixture;

a dock connector affixed to said second attachment fixture comprising a front face, a back face, a first side face, a second side face, a top face, a bottom face, a first engagement button, a second engagement button, a 30-pin assembly, a first retractable retention tab, and a second retractable retention tab, wherein said first engagement button resides on said first side face and said second engagement button resides on said second side face, and wherein said 30-pin assembly protrudes generally perpendicularly from said bottom face of said dock connector, and wherein said first retractable retention tab and said second retractable retention tab extend normally from said 30-pin assembly; and

a loop affixed to said back planar surface of said cylindrical housing for secure attachment to a static element.

17. A lanyard assembly of claim **16** wherein said swivel means is a coupling ring.

18. The lanyard assembly of claim **17** wherein said loop is comprised of spring steel.

* * * * *