

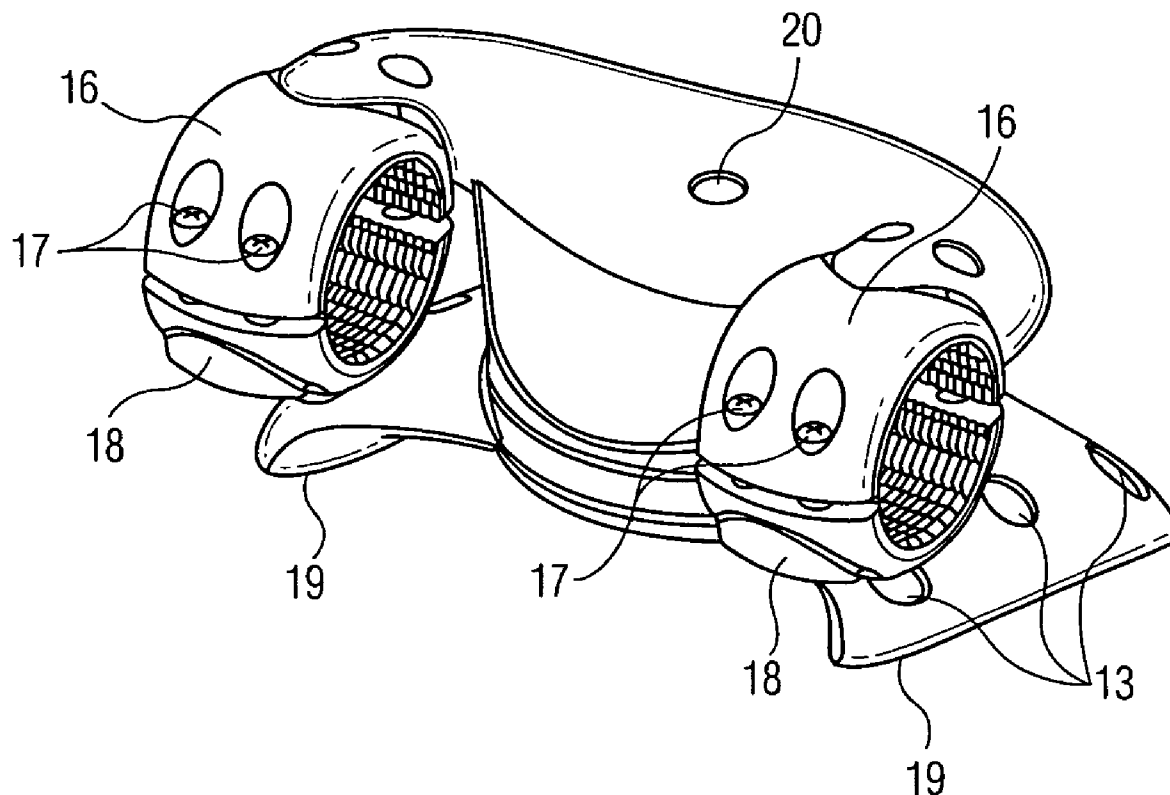


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(19) **United States**(12) **Patent Application Publication**
Hollenhead et al.(10) **Pub. No.: US 2007/0295874 A1**(43) **Pub. Date: Dec. 27, 2007**(54) **CONTROLLED ROTATION MOUNT****Publication Classification**(75) Inventors: **Gary K. Hollenhead**, Farragut,
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Kajitani, Knoxville, TN (US)(51) **Int. Cl.**
A47F 5/00 (2006.01)
(52) **U.S. Cl.** **248/289.11**(57) **ABSTRACT**

A swivel mount is provided comprising a mounting portion adapted for mounting to a fixed surface and a swiveling portion adapted for mounting to an electronic apparatus. The swiveling portion is rotatably coupled to the mounting portion and adapted to rotate with respect to the mounting portion about an axis of rotation. The swiveling portion defines an annular channel. A translating member is moveably positioned within the annular channel. A stop mounted to or extending from the mounting portion is positioned within the annular channel of the swiveling portion. The translating member is configured to translate a fixed distance in contact with the stop, and rotation of the swiveling portion is limited by contact between the stop and the translating member once the translating member translates the fixed distance.

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Corporation of America(21) Appl. No.: **11/474,752**(22) Filed: **Jun. 26, 2006**

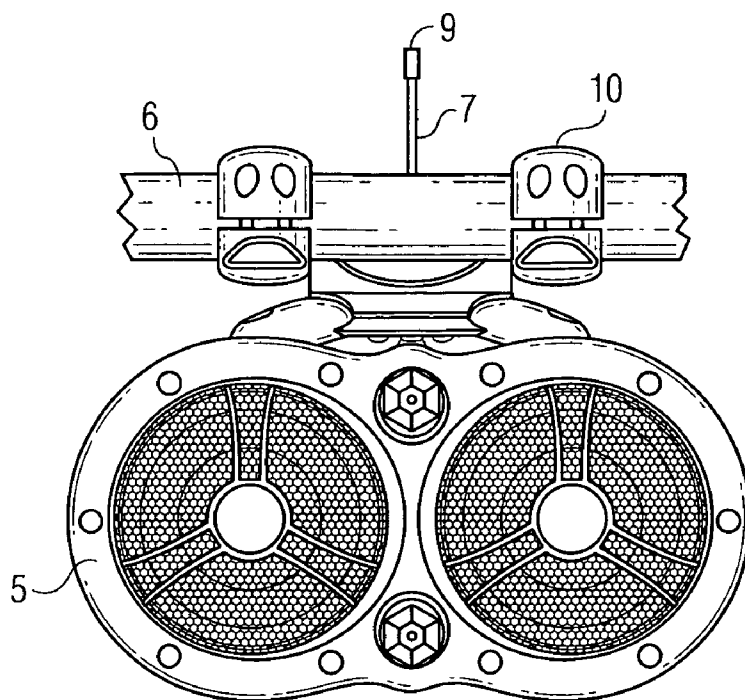


FIG. 1

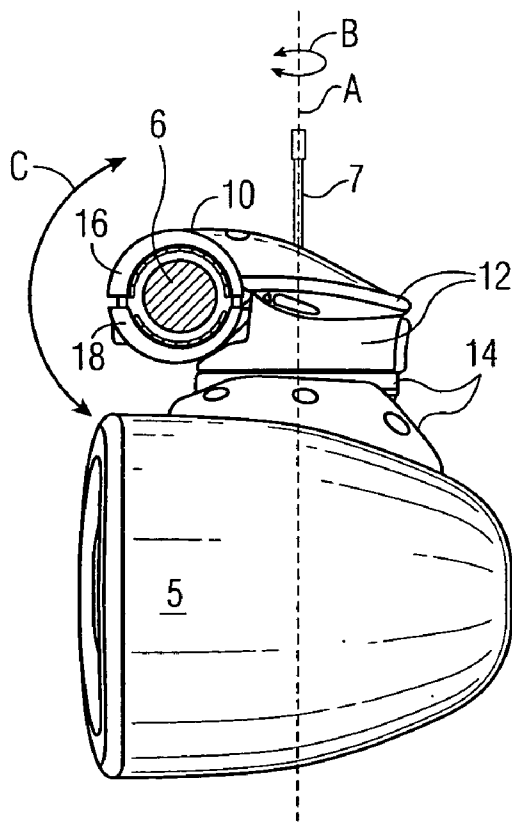


FIG. 2

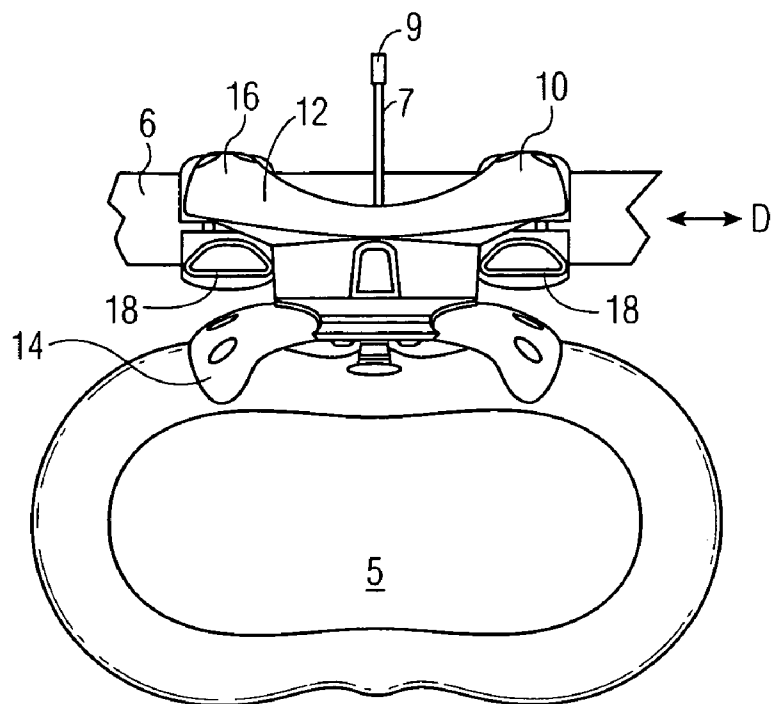


FIG. 3

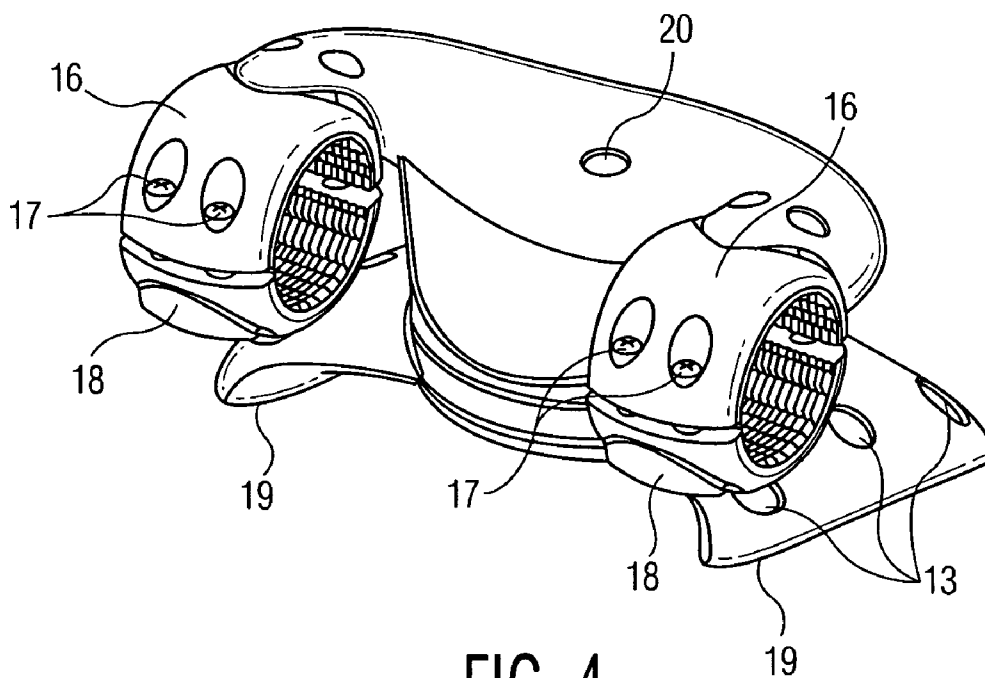


FIG. 4

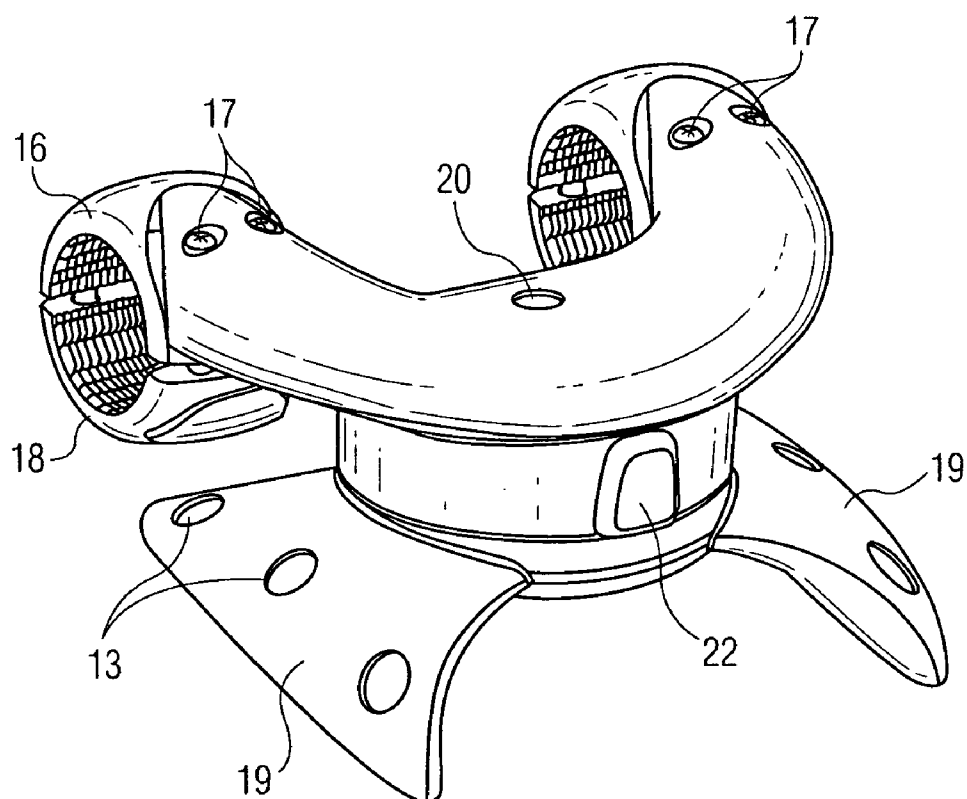


FIG. 5

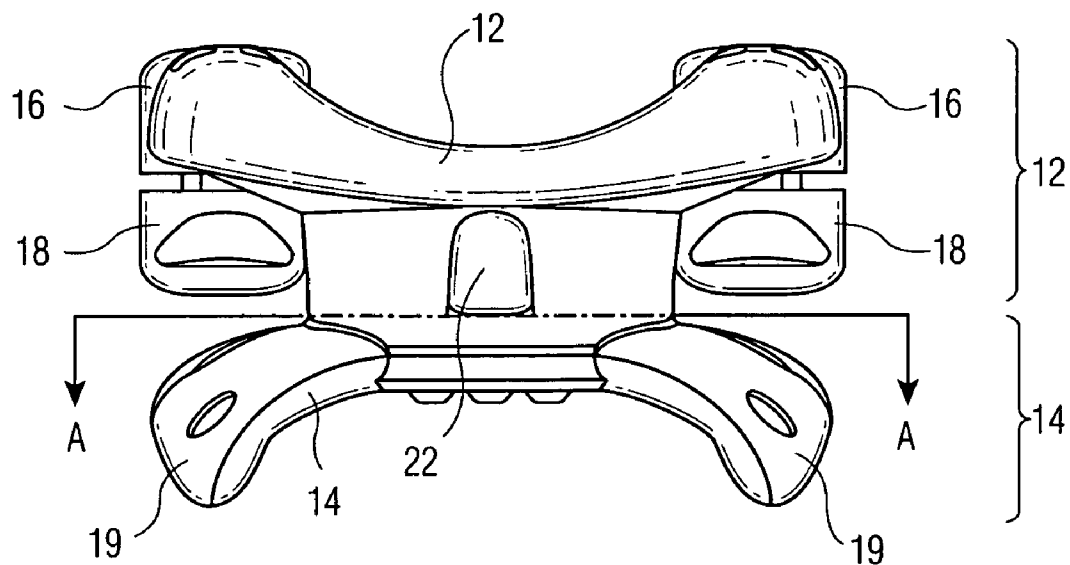


FIG. 6

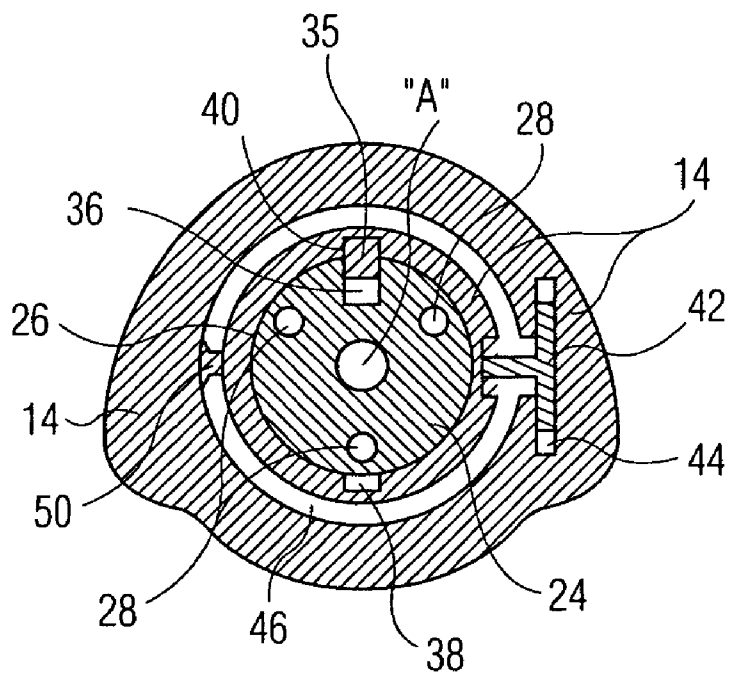


FIG. 8A

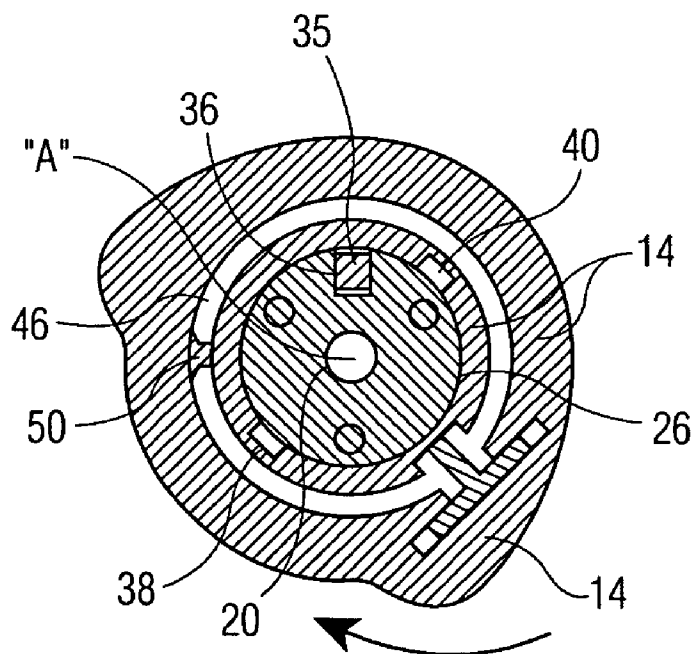


FIG. 8B

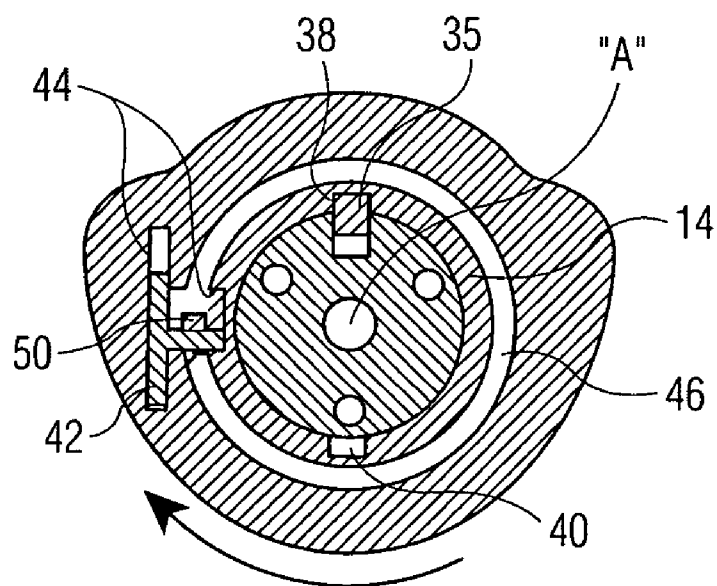


FIG. 8C

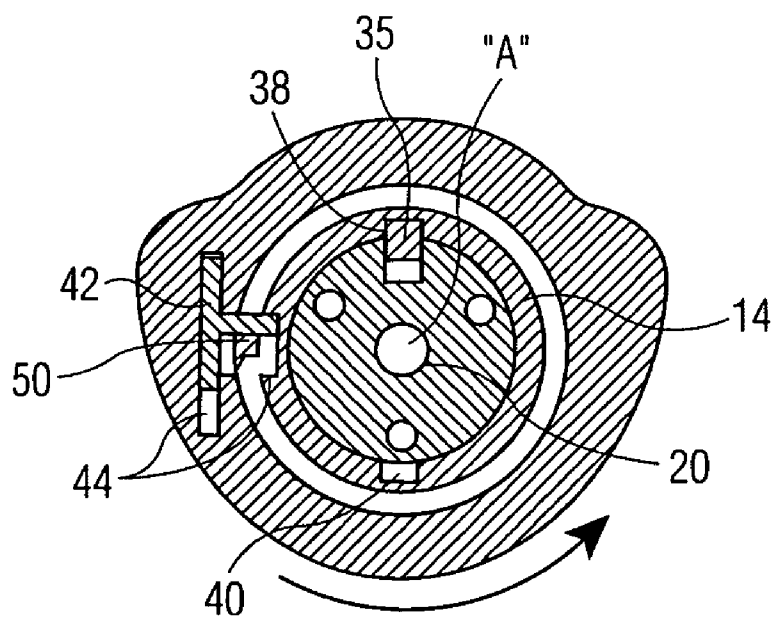


FIG. 8D

CONTROLLED ROTATION MOUNT

FIELD OF THE INVENTION

[0001] The present invention relates to a mounting apparatus for electronic equipment.

BACKGROUND OF THE INVENTION

[0002] Audio and video equipment, such as an audio speaker or a television monitor, is generally mounted on a floor, on a wall, or on a wall unit. The audio and video equipment may be employed in the home, automobile, boat, or any other indoor or outdoor environment. There is a need to provide a swiveling mount for controllable rotation of the audio/video equipment while substantially limiting twisting or tangling of the wire(s) or harness extending from the audio/video equipment in an effort to prevent damage to the audio/video equipment.

SUMMARY OF THE INVENTION

[0003] According to one aspect of this invention, a swivel mount is provided. The swivel mount comprises a mounting portion adapted for mounting to a fixed surface and a swiveling portion adapted for mounting to an electronic apparatus. The swiveling portion is rotatably coupled to the mounting portion and adapted to rotate with respect to the mounting portion about an axis of rotation. The swiveling portion defines an annular channel. A translating member is moveably positioned within the annular channel. A stop mounted to or extending from the mounting portion is positioned within the annular channel of the swiveling portion. The translating member is configured to translate a fixed distance in contact with the stop, and rotation of the swiveling portion is limited by contact between the stop and the translating member once the translating member translates the fixed distance.

[0004] According to another aspect of this invention, an aperture is defined in the swivel mount positioned for carrying a wire of the electronic apparatus.

[0005] According to yet another aspect of this invention, a rotation of the swiveling portion is limited to approximately 180 degrees or less in a clockwise direction with respect to a neutral position and approximately 180 degrees or less in a counterclockwise direction with respect to the neutral position.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The invention is best understood from the following detailed description when read in connection with the accompanying drawing.

[0007] FIG. 1 is a front elevation view of an exemplary embodiment of an audio speaker mounted to a swivel mount according to aspects of the invention;

[0008] FIG. 2 is an elevation view from the right side of the audio speaker mounted to the swivel mount shown in FIG. 1;

[0009] FIG. 3 is an elevation view from the rear of the audio speaker mounted to the swivel mount shown in FIG. 1;

[0010] FIG. 4 is a perspective view from the front right side of the swivel mount of FIG. 1;

[0011] FIG. 5 is a perspective view from the rear right side of the swivel mount of FIG. 1;

[0012] FIG. 6 is an elevation view from the rear side of the swivel mount of FIG. 1;

[0013] FIG. 7 is an exploded assembly view of the swivel mount of FIG. 1;

[0014] FIG. 8A is a cross-section of the swivel mount taken along the lines A-A of FIG. 6, whereby the swivel mount is locked and shown in a neutral position;

[0015] FIG. 8B is a cross-section of the swivel mount taken along the lines A-A of FIG. 6, whereby the swivel mount is unlocked and shown rotated approximately 45 degrees in the clockwise direction relative to the neutral position of FIG. 8A;

[0016] FIG. 8C is a cross-section of the swivel mount taken along the lines A-A of FIG. 6, whereby the swivel mount is shown rotated to a first locked position oriented approximately 180 degrees in a clockwise direction relative to the neutral position of FIG. 8A; and

[0017] FIG. 8D is a cross-section of the swivel mount taken along the lines A-A of FIG. 6, whereby the swivel mount is shown rotated to a second locked position oriented approximately 180 degrees in a counterclockwise direction relative to the neutral position of FIG. 8A.

DETAILED DESCRIPTION OF THE INVENTION

[0018] The invention will next be illustrated with reference to the Figures. Such Figures are intended to be illustrative rather than limiting and are included herewith to facilitate explanation of the present invention.

[0019] Referring generally to the figures, according to one aspect of this invention, a swivel mount 10 is provided. The swivel mount 10 comprises mounting portion 12 adapted for mounting to fixed surface 6 and swiveling portion 14 adapted for mounting to electronic apparatus 5. The swiveling portion 14 is rotatably coupled to mounting portion 12 and adapted to rotate with respect to mounting portion 12 about an axis of rotation "A". An annular channel 46 is defined in swiveling portion 14. A translating member 42 is moveably positioned within annular channel 46. A stop 50 mounted to or extending from mounting portion 12 is positioned within the annular channel 46 of swiveling portion 14. The translating member 42 is configured to translate a fixed distance in contact with stop 50, and rotation of swiveling portion 14 is limited by contact between stop 50 and translating member 42 once translating member 42 translates the fixed distance.

[0020] According to another aspect of this invention, aperture 20 is defined in swivel mount 10 positioned for carrying wire 7 of electronic apparatus 5.

[0021] According to yet another aspect of this invention, a rotation of swiveling portion 14 is limited to approximately 180 degrees or less in a clockwise direction with respect to a neutral position and approximately 180 degrees or less in a counterclockwise direction with respect to the neutral position.

[0022] Referring now to FIGS. 1-3, according to an exemplary embodiment a swivel mount is generally designated by the numeral 10. The swivel mount 10 pivotally mounts electronic apparatus 5 to tube 6. The electronic apparatus 5 may be an audio speaker, as shown, or any other audio and/or video device, such as a television monitor, a stereo, or a video camera, for example. The tube 6 may be any fixed support or fixed surface capable of supporting the weight of swivel mount 10 and electronic apparatus 5.

[0023] In this exemplary embodiment, the swivel mount 10 generally includes swiveling portion 14 that is rotatably coupled to mounting portion 12. The mounting portion 12 is releasably mounted to tube 6, and swiveling portion 14 is mounted to electronic apparatus 5. The electronic apparatus 5 is capable of rotation with respect to tube 6, by virtue of swiveling portion 14, while mounting portion 12 remains fixed in position with tube 6.

[0024] Referring now to FIGS. 1-4, wire 7 represents either a power cord and/or a signal cable that is connected to and extending from the top surface of electronic apparatus 5. The wire 7 is terminated at a power and/or signal connector 9 that is configured to be connected to a power or signal source (not shown). The wire 7 extends from the top of the speaker, through aperture 20 (shown in FIG. 4) disposed through mounting portion 12 to a power or signal source (not shown). Because wire 7 may be damaged if it is excessively twisted, swivel mount 10 is configured to limit twisting of wire 7 as swivel mount 10 rotates about axis "A." To limit twisting of wire 7, swiveling portion 14 is configured to rotate not more than one revolution about axis "A." More specifically, swiveling portion 14 of swivel mount 10 is limited to approximately 180 degrees or less of rotation about axis "A" in a clockwise direction relative to a neutral position, and approximately 180 degrees or less of rotation about axis "A" in a counterclockwise direction relative to said neutral position. Thus, the total rotational range of swiveling portion 14 is approximately 360 degrees about axis "A."

[0025] Referring now to FIGS. 2-6, the mounting portion 12 of swivel mount 10 includes two upper clamp arms 16 and two lower clamp arms 18 which together define an aperture to accommodate tube 6. The upper clamp arms 16 integrally extend from the body of mounting portion 12 and lower clamp arms 18 are separable components. In assembly, clamp arms 16 and 18 are united by fasteners 17 about the circumference of tube 6, as best shown in FIG. 2. The clamp arms 16 and 18 are compressed about the circumference of tube 6 by fasteners 17, thereby retaining mounting portion 12 in a fixed position. Prior to fastening clamp arms 16 and 18 against tube 6, mounting portion 12 may be rotated to any desired position about an axis of tube 6 along the rotational direction "C" (see FIG. 2), and translated along tube 6 to any desired position along translational direction "D" (See FIG. 3).

[0026] The mounting portion 12 may be releasably fastened to tube 6 in any fashion known in the art. The clamp arms 16, 18, are not limited to the illustrations and may be of any size or shape to achieve the same purpose. Furthermore, mounting portion 12 may be clipped, clamped, fastened, adhered or integral with tube 6. Moreover, tube 6 may take any size, shape or form.

[0027] Referring now to swiveling portion 14 of swivel mount 10 illustrated in FIGS. 1-5, swiveling portion 14 is fastened to a top surface of electronic apparatus 5. The swiveling portion 14 includes two integral leg segments 19 which are secured to the top surface of electronic apparatus 5 by a plurality of fasteners (not shown). Each fastener is positioned through a clearance hole 13 (six shown) disposed in leg segments 19. The curvature of leg segments 19 is complementary to the contours of the top surface of electronic apparatus 5, such that the interface between leg segments 19 and the top surface of electronic apparatus 5 is substantially flush.

[0028] The swiveling portion 14 is configured for controlled rotational movement about axis of rotation "A", as illustrated by the directional arrow "B" shown in FIG. 2. The swiveling portion 14 is capable of clockwise and counterclockwise rotation about axis "A." Thus, electronic apparatus 5 is capable of controlled rotational motion about axis of rotation "A" because electronic apparatus 5 is fastened to swiveling portion 14. The mounting portion 12 of swivel mount 10 is configured to remain static and fixed in place as swiveling portion 14 and electronic apparatus 5 rotate about axis "A." The controlled aspects of the rotational movement of swiveling portion 14 is described with reference to FIGS. 8A-8D.

[0029] The swiveling portion 14 is not capable of rotating more than 180 degrees in the clockwise or counterclockwise direction, relative to the neutral position. Thus, the maximum amount wire 7 may be twisted about axis "A" is approximately 180 degrees or less in either the clockwise or counterclockwise direction relative to said neutral position, assuming wire 7 is flat and untwisted in the neutral position. Moreover, aperture 20 is optionally aligned with the axis of rotation "A" to further reduce any stress or strain applied to wire 7. The operation of swiveling portion 14 is described in greater detail with reference to FIGS. 8A-8D.

[0030] Referring now to FIGS. 5 and 6, a spring-loaded pushbutton 22, hereinafter pushbutton 22, is provided on a rear surface of swivel mount 10 for unlocking swiveling portion 14 so that it can be rotated to another position. In use, pushbutton 22 is depressed to permit manual rotation of swiveling portion 14. The automatic locking and manual unlocking actions of pushbutton 22 are explained in greater detail with reference to FIGS. 7 and 8A-8D.

[0031] Referring now to FIG. 7, an exploded view of swivel mount 10 is illustrated. In assembly, a cylindrical protrusion 24 of mounting portion 12 is positioned within aperture 26 defined in swiveling portion 14. A thrust washer 25 is positioned beneath swiveling portion 14. A plurality of fasteners 27 positioned through clearance holes disposed in thrust washer 25 engage complimentary holes 28 (see FIG. 8A) disposed on the underside of cylindrical protrusion 24 of mounting portion 12. The mounting surfaces 29, 30 of mounting portion 12 and swiveling portion 14, respectively, are drawn together by fasteners 27.

[0032] A Teflon washer 31 is positioned between mounting surfaces 29, 30 to reduce the friction between the sliding mounting surfaces 29 and 30. A second Teflon washer 32 is positioned between the bottom side of swiveling portion 14 and thrust washer 25 to reduce the friction between the sliding surfaces of swiveling portion 14 and thrust washer 25. It should be understood that in this exemplary embodiment swiveling portion 14 rotates and mounting portion 12 remains fixed in place.

[0033] The pushbutton 22 is positioned in opening 33 defined in mounting portion 12. A spring 34 bears on the rear surface of pushbutton 22 to bias pushbutton 22 to a locked position. A locking lug 35 extending from the bottom surface of pushbutton 22 is positioned in slot 36 defined in cylindrical protrusion 24, and bears on the interior surface of aperture 26.

[0034] A variety of slots and channels are formed on mounting surface 30 of swiveling portion 14. Specifically, two opposing slots 38 and 40 formed on mounting surface 30 cooperate with locking lug 35 of spring-loaded pushbut-

ton 22 to lock swiveling portion 14, as explained further with reference to FIGS. 8A, 8C and 8D.

[0035] A 'T'-shaped slot 44 is also defined on mounting surface 30 of swiveling portion 14. A translating member 42 positioned in slot 44 is adapted to translate in a direction orthogonal to axis "A" within slot 44 and rotate along with swiveling portion 14 about axis "A". The translating member 42 intersects with annular channel 46 that is also formed on mounting surface 30. A stop 50 mounted to or extending from mounting surface 29 of mounting portion 12 is positioned in annular channel 46 of swiveling portion 14. The stop 50 cooperates with translating member 42 to limit rotation of swiveling portion 14 to approximately 180 degrees or less of rotation about axis "A" in a clockwise or counterclockwise direction relative to a neutral position.

[0036] Referring now to FIGS. 8A-8D, a cross-section of swivel mount 10 taken along the lines A-A of FIG. 6 is shown. Swivel mount 10 is shown in different rotational positions in each of FIGS. 8A-8D. Briefly, in FIG. 8A, swivel mount 10 is locked and shown in a neutral position. In FIG. 8B, swivel mount 10 is unlocked and shown rotated 45 degrees in the clockwise direction, relative to the neutral position. In FIG. 8C, swivel mount 10 is locked and shown rotated 180 degrees in the clockwise direction, relative to the neutral position. In FIG. 8D, swivel mount 10 is locked and shown rotated 180 degrees in the counterclockwise direction, relative to the neutral position.

[0037] It should be understood that the components of swivel mount 10 shown in FIGS. 8A-8D which are capable of rotation about axis "A" are swiveling portion 14 and translating member 42, whereas cylindrical protrusion 24, locking lug 35, and stop 50 do not rotate about axis "A."

[0038] In FIG. 8A, swivel mount 10 is shown locked in the neutral position. In the neutral position shown, locking lug 35 is engaged between slot 36 of cylindrical protrusion 24 and slot 40 of swiveling portion 14. Thus, locking lug 35 limits rotation of swiveling portion 14, and, swivel mount 10 is locked. For reference, swivel mount 10 is also shown in the neutral position in FIGS. 1-3.

[0039] To unlock swivel mount 10, locking lug 35 is translated away from slot 40 by depressing pushbutton 22 (shown in FIG. 7) against the force of spring 34 until locking lug 35 is entirely seated within slot 36 of cylindrical protrusion 24. Thereafter, swiveling portion 14 may be manually rotated in either a clockwise or counterclockwise direction, relative to the neutral position shown in FIG. 8A. After swiveling portion 14 is rotated away from the neutral position, pushbutton 22 may be released and swiveling portion 14 will remain in an unlocked position, as shown in FIG. 8B.

[0040] Referring now to FIG. 8B, in the unlocked position of swivel mount 10, locking lug 35 is captured between slot 36 and the interior surface of aperture 26 of swiveling portion 14, thereby permitting swiveling portion 14 to freely rotate about axis "A" and cylindrical protrusion 24. The swiveling portion 14 will remain in an unlocked state until swiveling portion 14 is rotated to the first locked position shown in FIG. 8C, the second locked position shown in FIG. 8D, or back to the neutral position shown in FIG. 8A.

[0041] In FIG. 8C, swivel mount 10 is shown rotated to the first locked position. The first locked position is located approximately 180 degrees in a clockwise direction, relative to the neutral position. In the first locked position, translating member 42 initially abuts one side of stop 50. Thereafter,

translating member 42 translates a fixed distance along the length of slot 44 while swiveling portion continues to rotate in the clockwise direction. The translating member 42 ultimately contacts the boundaries of slot 44, as shown in FIG. 8C, and is thereby limited from further rotation in the clockwise direction. Accordingly, swiveling portion 14 is limited from further rotation in the clockwise direction. The sliding action of translating member 42 facilitates complete 180 degree rotation of swiveling portion 14 in the clockwise direction, relative to the neutral position.

[0042] In operation, when slot 38 is axially aligned with locking lug 35 after translating member 42 has sufficiently translated in slot 44, as shown in FIGS. 8C and 8D, locking lug 35 automatically engages slot 38 by virtue of the spring loaded action of pushbutton 22. As mentioned with reference to FIG. 7, spring 34 biases locking lug 35 to the locked position.

[0043] Similar to FIG. 8C, in FIG. 8D swivel mount 10 is shown rotated to the second locked position. The second locked position is located approximately 180 degrees in a counterclockwise direction, relative to the neutral position. In the second locked position, translating member 42 abuts the opposite side of stop 50 (as compared to the first locked position shown in FIG. 8C). Thereafter, translating member 42 translates a fixed distance along the length of slot 44 while swiveling portion continues to rotate in the counterclockwise direction. The translating member 42 ultimately contacts the boundaries of slot 44, as shown in FIG. 8D, and is thereby limited from further rotation in the counterclockwise direction. Accordingly, swiveling portion 14 is limited from further rotation in the counterclockwise direction. The sliding action of translating member 42 facilitates complete 180 degree rotation of swiveling portion 14 in the counterclockwise direction, relative to the neutral position.

[0044] As mentioned above, swiveling portion 14 can not rotate in the clockwise direction beyond the first locked position or rotate in the counterclockwise direction beyond the second locked position. Furthermore, in this exemplary embodiment, swivel mount 10 can not rotate between the first locked position and the second locked without rotating through the neutral position.

[0045] Although swivel mount 10 offers three locking positions, in another exemplary embodiment not illustrated herein, the swivel mount may include any number of locking positions, i.e. any number of slots, similar to slots 38 and 40, disposed on mounting surface 30 of swiveling portion 14. In another exemplary embodiment not illustrated herein, in the absence of slots 38 and 40, the circumference of aperture 26 is lined with gear teeth. The locking lug 35 also includes gear teeth that are configured to engage with the gear teeth of aperture 26. Thus, upon release of pushbutton 22, the gear teeth of locking lug 35 and aperture 26 engage, thereby limiting rotation of swiveling portion 14. Accordingly, swiveling portion 14 can not rotate unless pushbutton 22 is depressed, such that the gear teeth of locking lug 35 are separated from the gear teeth of aperture 26. In still another exemplary embodiment not illustrated herein, in the absence of slots 38 and 40, the circumference of aperture 26 is lined with a friction material, such that locking lug 35 can not translate or slide along the friction material. Thus, upon release of pushbutton 22, a surface of locking lug 35 and the friction material of aperture 26 engage, thereby limiting rotation of swiveling portion 14. Similar to the last embodiment, swiveling portion 14 can not rotate unless pushbutton

22 is depressed, such that locking lug 35 is separated from the friction material of aperture 26.

[0046] While exemplary embodiments of the invention have been shown and described herein, it will be understood that such embodiments are provided by way of example only. Numerous variations, changes and substitutions will occur to those skilled in the art without departing from the spirit of the invention. For example, rotation of swivel unit 10 may be manual, as described, or automated. Furthermore, the swivel mount may include any number of locking positions. Finally, although not shown or described, the mounting portion may also be configured to rotate along with the swiveling portion, or, alternatively, the mounting and swiveling portions may be configured to rotate independently of each other. Accordingly, it is intended that the appended claims cover all such variations as fall within the spirit and scope of the invention.

What is claimed:

1. A swivel mount comprising:
 - a mounting portion adapted for mounting to a fixed surface;
 - a swiveling portion adapted for mounting to an electronic apparatus, said swiveling portion being rotatably coupled to said mounting portion and adapted to rotate with respect to said mounting portion about an axis of rotation, said swiveling portion defining an annular channel;
 - a translating member moveably positioned within said annular channel; and
 - a stop mounted to or extending from said mounting portion, said stop being positioned within said annular channel of said swiveling portion, wherein said translating member is configured to translate a fixed distance in contact with said stop, and rotation of said swiveling portion is configured to be limited by contact between said stop and said translating member once said translating member translates the fixed distance.
2. The swivel mount of claim 1, said mounting portion further comprising a clamp configured to couple the mounting portion to the fixed surface.
3. The swivel mount of claim 1 further comprising a locking lug movably engaged between said swiveling portion and said mounting portion, wherein in a deployed position said locking lug engages said swiveling portion and said mounting portion, thereby limiting rotation of said swiveling portion with respect to said mounting portion.
4. The swivel mount of claim 3 wherein, in a retracted position of said locking lug, said locking lug is spaced from said swiveling portion and said swiveling portion is configured for rotation with respect to said mounting portion.
5. The swivel mount of claim 3 wherein, in said deployed position, said locking lug is positioned within a slot formed in said swiveling portion and a slot formed in said mounting portion.
6. The swivel mount of claim 4 further comprising two radially opposed slots formed in said swiveling portion, wherein, in a neutral position of said swiveling portion, said slot of said mounting portion and one of said two slots of said swiveling portion are substantially axially aligned with respect to the axis of rotation.
7. The swivel mount of claim 6 wherein, in another position of said swiveling portion radially spaced from said neutral position, said slot of said mounting portion and the

other of said two slots of said swiveling portion are substantially axially aligned with respect to the axis of rotation.

8. The swivel mount of claim 3 wherein said locking lug is spring-loaded.

9. The swivel mount of claim 1 wherein said electronic apparatus is an audio speaker.

10. The swivel mount of claim 1 wherein said translating member and said stop abut in a first position and a second position of said swiveling portion, said first position being oriented approximately 180 degrees in a clockwise direction relative to a neutral position and said second position being approximately 180 degrees in a counterclockwise direction relative to the neutral position.

11. The swivel mount of claim 10 wherein in said first position of said swiveling portion said translating member abuts a surface of said stop and in said second position of said swiveling portion said translating member abuts an opposing surface of said stop.

12. The swivel mount of claim 1 wherein said translating member is carried in a slot defined in said swiveling portion, and said slot intersects with said annular channel.

13. A swivel mount configured for rotatably mounting an electronic apparatus to a fixed surface comprising:

- a mounting portion adapted for mounting to the fixed surface;
- a swiveling portion adapted for mounting to the electronic apparatus, said swiveling portion being rotatably coupled to said mounting portion and adapted to rotate with respect to said mounting portion about an axis of rotation; and
- an aperture defined in the swivel mount positioned for carrying a wire of the electronic apparatus.

14. The swivel mount of claim 13 wherein the electronic apparatus is an audio speaker.

15. The swivel mount of claim 13 wherein said aperture of said swivel mount is substantially aligned with an axis of rotation of said swiveling portion.

16. The swivel mount of claim 13 wherein said aperture is disposed in said swiveling portion.

17. The swivel mount of claim 13 further comprising a locking lug movably engaged between said swiveling portion and said mounting portion, wherein, in a deployed position, said locking lug engages said swiveling portion and said mounting portion, thereby limiting rotation of said swiveling portion with respect to said mounting portion.

18. The swivel mount of claim 17 wherein, in a retracted position of said locking lug, said locking lug is spaced from said swiveling portion and said swiveling portion is capable of rotation with respect to said mounting portion.

19. The swivel mount of claim 17 wherein in said deployed position said locking lug is positioned within a slot formed in said swiveling portion and a slot formed in said mounting portion.

20. A swivel mount configured for rotatably mounting an electronic apparatus to a fixed surface comprising:

- a mounting portion adapted for mounting to the fixed surface;
- a swiveling portion adapted for mounting to the electronic apparatus, said swiveling portion being rotatably coupled to said mounting portion and adapted to rotate with respect to said mounting portion about an axis of rotation, wherein a rotation of said swiveling portion is limited to approximately 180 degrees or less in a clockwise direction with respect to a neutral position and approximately 180 degrees or less in a counter-

clockwise direction with respect to the neutral position;
and
an aperture defined in the swivel mount positioned for
carrying a wire of the electronic apparatus, wherein the

rotational motion of the swiveling portion limits twisting of the wire of the apparatus carried in the aperture.

* * * * *