CHAIR FOOTRING ADJUSTMENT MECHANISM

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ABSTRACT

The present invention provides a chair assembly having a support member defining a plurality of positioning stations separated by a predetermined vertical distance. A coupling element may be included that defines a first portion and a second portion, such that the first and second portions are pivotably coupled to one another. The coupling element may be engageable with one or more of the positioning stations of the support member. A foot ring may also be included, where the foot ring is engageable with the coupling element to be positioned at a desired height while being securely affixed to the coupling element and thus, the support member of the chair assembly.
FIG. 3
CHAIR FOOTRING ADJUSTMENT MECHANISM

CROSS-REFERENCE TO RELATED APPLICATION

[0001] n/a

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] n/a

FIELD OF THE INVENTION

[0003] The present invention relates to office and/or task chairs, and more particularly, to a height adjustment system for a foot ring of a chair that allows an individual to be comfortably seated in the chair with the foot ring at a desirable position.

BACKGROUND OF THE INVENTION

[0004] It is typically desirable to provide a chair that allows an individual to remain continuously seated, properly oriented, and comfortably positioned in the chair. Office chairs and more particularly task chairs are often purchased with the user and intended use of the chair in mind. Depending on the application, one or more adjustments may be provided at the option of the purchaser.

[0005] Office chairs and task chairs used by individuals seated at desks and consoles are often used in a wide variety of applications where the individual is required to remain seated for extended durations of time to perform their required duties. Because of the length of time that many individuals spend seated, it is important that these chairs be properly adjusted for each user to provide enhanced comfort.

[0006] To improve the comfort of a particular chair, provisions are usually made for some adjustments to accommodate the physical size of the user. These adjustments may include an adjustment of the height of the seat relative to the base, adjustment of the chair back angle, adjustment of the seat angle, and adjustment of the seat depth. In addition, for certain chairs, an adjustment of the height of a foot ring or support with respect to the ground and/or seat may be made. In some office and task chairs, the adjustments may include complex mechanisms having multiple moving parts. As such, the adjustment mechanisms may be prone to malfunction and/or fail to work altogether after a short period of time. Moreover, the particular adjustment mechanisms may include a handle or the like placed just under the seat, where an individual may accidentally trigger the adjustment mechanism and thus have to reposition the seat time and time again.

[0007] Thus, in addition to the potential unreliability of an adjustment mechanism, chair adjustments can be tedious and time consuming as the user needs to repeatedly adjust the chair. In view of the above, the need exists for a simple, inexpensive, and effective chair adjustment mechanism that allows the user to adjust the chair’s orientation, and wherein the adjustment may not be accidentally triggered.

SUMMARY OF THE INVENTION

[0008] The present invention advantageously provides a simple, inexpensive, and effective chair adjustment mechanism that allows the user to adjust the chair’s orientation. In particular, a height adjustment system for a foot ring coupled to a portion of a chair may include a foot ring that is engageable with a portion of a chair. The foot ring may generally define a disc-like structure having a rounded rim that extends from and/or circumscribes a central opening of the foot ring. The rounded rim may extend from and/or be offset from the central opening by a plurality of spokes.

[0009] The present invention may include a support member coupled to a pedestal or wheel base having multiple caster assemblies affixed thereto. The support member may define one or more positioning stations disposed about a surface of the support member for receiving the foot ring at a particular height from the ground and/or a seat cushion affixed to the support member. Each positioning station may include a depression or groove disposed about the support member, such as a plurality of annular grooves circumscribing the support member.

[0010] A coupling element may be provided that is engageable with one or more of the positioning stations of the support member, and for further providing for the affixation of the foot ring to the support member. The coupling element may define a first portion and a second portion, where the first and second portions are pivotably coupled to one another. Further, the coupling element may define an engaging structure that is mateable and/or engageable with the positioning station of the support member for the affixation thereof. The coupling element may further define a first end and a second end, where the second end has a width and/or diameter larger than that of the first end. Accordingly, the central opening of the foot ring may be slidably positioned over the coupling element and thereby provide a compression fit as the lower end of the central opening is proximate to the flared end of the coupling element.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] A more complete understanding of the present invention, and the attendant advantages and features thereof, will be more readily understood by reference to the following detailed description when considered in conjunction with the accompanying drawings wherein:

[0012] FIG. 1 provides an assembly view of an embodiment of a height adjustment system for a foot ring in accordance with the present invention;

[0013] FIG. 2 illustrates a cross-sectional view of an embodiment of a height adjustment system for a foot ring in accordance with the present invention; and

[0014] FIG. 3 provides an assembled view of an embodiment of a height adjustment system for a foot ring in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0015] As shown in FIG. 1, the present invention includes a height adjustment system, generally indicated as 10, for a foot ring coupled to a portion of a chair. The present invention may include a foot ring 12 that is engageable with a portion of a chair for supporting the feet of an individual when seated in the chair. While the foot ring 12 may define a myriad of shapes having varying dimensions and/or decorative characteristics, in a particular embodiment, the foot ring 12 generally defines a disc-like structure having a rounded outer rim 14 that extends from and/or circumscribes a central opening...
of the foot ring 12. The rounded rim may extend from and/or be offset from the central opening by a plurality of spokes 18.

[0016] In addition, the present invention may include a support member 20, where the support member 20 may define an elongated cylindrically shaped body. The support member 20 may be coupled to a pedestal or wheel base 22 having multiple caster assemblies affixed thereto or a complete set of the chair assembly around a workspace or the like. The support member 20 may extend upward from the pedestal or wheel base 22 to couple to and thereby support a seat cushion of the desired height of the foot ring 12 with respect to either the ground or a portion of the chair assembly, the coupling element 26 is opened by separating at least a portion of the first portion 28 from the second portion 30, and placed at the desired height on the support member 20, which corresponds to a particular positioning station. The coupling element 26 is then closed about the support member 20, thereby engaging the protruding rim 32 with one of the grooves of the positioning stations 24 of the support member 20. As such, the coupling element 26 becomes firmly engaged and affixed to the support member 20 at the desired positioning station 24. Once the coupling element 26 is satisfactorily positioned about the support member 20, the foot ring 12 may be slidably engaged with the coupling element 26 such that the coupling element 26, and thus the support member 20, are positioned within the central opening 16 of the foot ring 12. As the foot ring 12 is subsequently lowered onto the coupling element 26, the flared second end of the coupling element 26 provides a compression fit and thus affixes the foot ring 12 to the coupling element 26, and as such, the support member 20. Where it is desired to change the particular height or positioning of the foot ring 12 with respect to the support member 20, the foot ring 12 may be lifted away from the coupling element 26, and the coupling element 26 may be opened and thus repositioned about the desired positioning station 24 of the support member 20. Subsequent repositioning of the foot ring 12 about the coupling element 26 would then proceed as discussed above.

[0017] A coupling element 26 may be provided that is engageable with one or more of the positioning stations 24 of the support member 20, and for further providing for the affixation of the foot ring 12 to the support member 20. For example, the coupling element 26 defines a first portion 28 and a second portion 30 having arcuate bodies, where the first and second portions are pivotably coupled to one another. The first and second portions may further be movably coupled to one another to provide a cylindrically shaped construct able to be placed in an open configuration as well as a closed configuration. In the closed configuration, the coupling element 26 defines a substantially continuous cylindrically defined passage there through such that the coupling element 26 is positionable about a portion of the support member 20. Further, the coupling element 26 defines an engaging structure that is mateable and/or engageable with a positioning station 24 of the support member 20 for the affixation thereof. For example, the coupling element 26 includes a protruding rim 32 along an interior surface of the coupling element 26 that is mateable with one or more of the indentations or grooves of the support member 20. The coupling element 26 may further define a first end and a second end, where the second end has a width and/or diameter larger than that of the first end. Accordingly, the central opening of the foot ring 12 may be slideably positioned over the coupling element 26. As the lower end of the central opening descends towards the flared or widened second end of the coupling element, a compression fit is achieved to securely affix the foot ring to the coupling element.

[0018] Now referring to FIGS. 2 and 3, in an exemplary use of the present invention, the support member 20 is provided in a chair assembly, where the support member 20 includes one or more positioning stations 24 located thereon. Upon a determination of the desired height of the foot ring 12 with respect to either the ground or a portion of the chair assembly, the coupling element 26 is opened by separating at least a portion of the first portion 28 from the second portion 30, and placed at the desired height on the support member 20, which corresponds to a particular positioning station. The coupling element 26 is then closed about the support member 20, thereby engaging the protruding rim 32 with one of the grooves of the positioning stations 24 of the support member 20. As such, the coupling element 26 becomes firmly engaged and affixed to the support member 20 at the desired positioning station 24. Once the coupling element 26 is satisfactorily positioned about the support member 20, the foot ring 12 may be slidably engaged with the coupling element 26 such that the coupling element 26, and thus the support member 20, are positioned within the central opening 16 of the foot ring 12. As the foot ring 12 is subsequently lowered onto the coupling element 26, the flared second end of the coupling element 26 provides a compression fit and thus affixes the foot ring 12 to the coupling element 26, and as such, the support member 20. Where it is desired to change the particular height or positioning of the foot ring 12 with respect to the support member 20, the foot ring 12 may be lifted away from the coupling element 26, and the coupling element 26 may be opened and thus repositioned about the desired positioning station 24 of the support member 20. Subsequent repositioning of the foot ring 12 about the coupling element 26 would then proceed as discussed above.

[0019] It will be appreciated by persons skilled in the art that the present invention is not limited to what has been particularly shown and described herein above. In addition, unless mention was made above to the contrary, it should be noted that all of the accompanying drawings are not to scale. A variety of modifications and variations are possible in light of the above teachings without departing from the scope and spirit of the invention, which is limited only by the following claims.

What is claimed is:
1. A chair assembly, comprising: a support member defining a plurality of positioning stations; a coupling element engageable with at least one of the positioning stations; and a foot ring engageable with the coupling element.
2. The chair assembly according to claim 1, wherein at least one positioning station is defined by a groove.
3. The chair assembly according to claim 2, wherein the positioning stations are separated by a predetermined vertical distance.
4. The chair assembly according to claim 3, wherein the coupling element includes an engagement structure mateable with at least one of the positioning stations.
5. The chair assembly according to claim 4, wherein the engagement structure defines a protruding rim positionable within one of the plurality of grooves.
6. The chair assembly according to claim 1, wherein the coupling element defines a hollow passage for receiving a portion of the support member.
7. The chair assembly according to claim 6, wherein the coupling element includes a first portion and a second portion pivotably coupled to the first portion.
8. The chair assembly according to claim 1, wherein the coupling element defines a first end and a second end, the second end having a width larger than that of the first end.
9. The chair assembly according to claim 8, wherein the foot ring defines a central opening slideably engageable with at least a portion of the coupling element.

10. The chair assembly according to claim 1, wherein the support member is an elongated, cylindrically shaped member.

11. The chair assembly according to claim 10, wherein each positioning station is defined by an annular groove circumscribing the cylindrically shaped member.

12. A coupling element for a chair assembly, comprising:
   a first portion defining a substantially arcuate body;
   a second portion defining a substantially arcuate body, wherein the second portion is movably coupled to the first portion.

13. The coupling element according to claim 12, wherein the first and second portions are positionable about each other to form a substantially cylindrical shape defining a passage therethrough.

14. The coupling element according to claim 13, wherein the coupling element further defines a first end and a second end, the second end having a width larger than that of the first end.

15. The coupling element according to claim 14, wherein the coupling element includes an engagement structure defined by a protruding rim.

16. A method of positioning a foot ring about a chair assembly, comprising the steps of:
   providing a support member, the support member defining a plurality of positioning stations;
   affixing a coupling element to at least one of the positioning stations of the support member; and
   slideably positioning the foot ring about the coupling element.

17. The method according to claim 16, wherein the coupling element defines a protruding rim mating with at least one of the plurality of positioning stations.

18. The method according to claim 16, wherein the coupling element defines a first end and a second end, the second end having a width larger than that of the first end.

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