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(54) **Tablet arm for nesting chair**

(57) According to various embodiments of the present invention, a tablet arm (100) for a nesting chair (102) including a first rigid support member (110) affixed to a nesting chair, a second rigid support member (112) swivelably coupled to the first rigid support member, a tablet (104) rotatably and slidably coupled to the second rigid support member by a collar, a first stop (222) coupled with the second rigid support member and configured to abut one end of the collar in the tablet's forward

operable position, and a second stop (1328) coupled with the second rigid support member and configured to abut another end of the collar in the tablet's rearward operable position. According to some embodiments, a plurality of nesting chairs having swivelling rotatable tablets movable from an operable position to a nested position, the tablets positioned over seatbacks of the chairs in the nested position and configured to slide horizontally in the operable position.

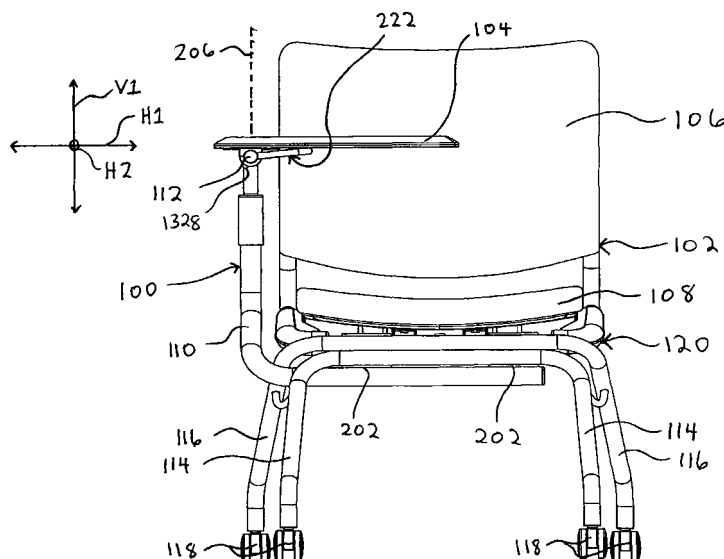


FIG. 2

Description

BACKGROUND

Field

[0001] Embodiments of the present invention relate generally to office furniture, and more particularly to swiveling, rotating tablet arms for nesting chairs.

Description of Related Art

[0002] Current chairs featuring tablet arms are often unable to be nested or stacked together to efficiently save space, because the tablet arms are often immovable. Some current nesting chairs featuring movable tablet arms often require complex mechanical joints to permit rotation of tablet arm components about a series of closely-spaced and complex joints detracts from the durability of the tablet rotation mechanism and increases manufacturing costs. In addition, current tablet arms for nesting chairs are unable to permit horizontal translation of the tablet in the tablet arm's operable position. Therefore, there is a need in the art for a tablet arm for a nesting chair which swivels in a horizontal plane, slides in a horizontal plane, and/or rotates between an operable position and a nested position to more efficiently save space while maintaining a durable tablet arm construction.

BRIEF SUMMARY

[0003] A tablet arm for a nesting chair is described, according to embodiments of the present invention. Tablet arms according to such embodiments include a first rigid support member affixed to a nesting chair, a second rigid support member swivelably coupled to the first rigid support member, a tablet rotatably and slidably coupled to the second rigid support member by a collar, and first and second stops coupled with the rigid support member. The first stop may be configured to contact one end of the collar in a forward operable position of the tablet, and the second stop may be configured to contact another end of the collar in a rearward operable position of the tablet. According to some embodiments, the second rigid support member swivels along a substantially horizontal plane. The first and/or second rigid support members may be tubular, and in some cases, the first rigid support member may be affixed to the nesting chair via welding.

[0004] According to some embodiments of the present invention, the first stop and the second stop may be formed by a U-shaped bracket attached to the second rigid support member in a manner such as welding, and the tablet may be configured to rest against the U-shaped bracket in an operable position.

According to some embodiments, the U-shaped bracket includes a crossbar piece substantially parallel to the second rigid support member, such that the top of the cross-

bar piece and the top of the collar form a substantially horizontal plane on which the tablet rests in an operable position. In some cases, the tablet arm may be coupled with the second support member via one collar; in other cases, the tablet arm may be coupled with the second support member via two or more collars, such that the second collar is separated from the first collar by either the first stop or the second stop. A third stop may be coupled with the second rigid support member and configured to halt the rotation of the tablet about the second rigid support member at a predetermined rotation angle.

[0005] According to some embodiments of the present invention, a swivel joint couples the first support member with the second support member, and includes a means for halting swiveling of the second support member away from the chair at a predetermined angle. According to additional embodiments, the nesting chair includes a seatback over which the tablet arm is configured to locate the tablet in the nested position. According to some instances of the embodiments, the nesting chair and the tablet arm occupy a substantially similar amount of horizontal side space in the nested position as in the operable position.

[0006] A nesting chair system according to embodiments of the present invention may include a plurality of nesting chairs having swiveling rotatable tablets, the swiveling rotatable tablets movable from an operable position to a nested position, the swiveling rotatable tablets positioned over seatbacks of the plurality of nesting chairs in the nested position and configured to slide horizontally in the operable position. The swiveling rotatable tablets may be further configured to slide horizontally toward and away from the seatbacks in the operable position such as, for example, along a substantially straight support member. The swiveling rotatable tablets are movable from the operable position to the nested position by swiveling the tablets toward the seatbacks and rotating them from a substantially horizontal orientation to a non-substantially horizontal orientation, according to various embodiments of the present invention.

[0007] A tablet arm for a nesting chair according to some embodiments of the present invention may include a tablet, a nesting chair, a mounting arm coupled to the nesting chair, a means for coupling the tablet to the mounting arm, a means for swiveling the tablet substantially horizontally about the mounting arm, a means for pivoting the tablet between a substantially horizontal position and a non-substantially horizontal position, and a means for sliding the tablet in a direction towards or away from the mounting arm. In some cases, the means for coupling, the means for pivoting, and the means for sliding may be the same means.

[0008] This summary provides only a general outline of some embodiments of the present invention. Many other objects, features, advantages and other embodiments of the present invention will become more fully apparent from the following detailed description and the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] A further understanding of the various embodiments of the present invention may be realized by reference to the figures which are described in remaining portions of the specification.

[0010] FIG. 1 illustrates a perspective view of a nesting chair with a tablet arm in an operable position according to embodiments of the present invention.

[0011] FIG. 2 illustrates a front elevation view of the nesting chair of FIG. 1 with tablet arm in an operable position, according to embodiments of the present invention.

[0012] FIG. 3 illustrates a side elevation view of the nesting chair of FIGS. 1 and 2 with tablet arm in an operable position, according to embodiments of the present invention.

[0013] FIG. 4 illustrates a top elevation view of the nesting chair of FIGS. 1-3 with tablet arm in an operable position according to embodiments of the present invention.

[0014] FIG. 5 illustrates a perspective view of the nesting chair of FIGS. 1-4 with a tablet arm in a nested position, according to embodiments of the present invention.

[0015] FIG. 6 illustrates a front elevation view of the nesting chair of FIGS. 1-5 with a tablet arm in a nested position, according to embodiments of the present invention.

[0016] FIG. 7 illustrates a side elevation view of the nesting chair of FIGS. 1-6 with a tablet arm in a nested position, according to embodiments of the present invention.

[0017] FIG. 8 illustrates a top elevation view of the nesting chair of FIGS. 1-7 with a tablet arm in a nested position, according to embodiments of the present invention.

[0018] FIG. 9 illustrates a perspective view of two nesting chairs nested with tablet arms in nested positions, according to embodiments of the present invention.

[0019] FIG. 10 illustrates a side elevation view of the two nesting chairs of FIG. 9 with tablet arms in nested positions, according to embodiments of the present invention.

[0020] FIG. 11 illustrates a top elevation view of the two nesting chairs of FIGS. 9 and 10 with tablet arms in nested positions, according to embodiments of the present invention.

[0021] FIG. 12 illustrates an exploded front perspective view of a tablet arm of the nesting chair of FIGS. 1-8, according to embodiments of the present invention.

[0022] FIG. 13 illustrates an enlarged view of the exploded front perspective view of the tablet arm of FIG. 12, according to embodiments of the present invention.

[0023] FIG. 14 illustrates an exploded rear perspective view of the tablet arm of the nesting chair of FIGS. 12 and 13.

DETAILED DESCRIPTION

[0024] Embodiments of the present invention relate

generally to office furniture, and more particularly to swiveling, rotating tablet arms for nesting chairs. The term "nesting chair" is used herein in its broadest sense to refer to a chair capable of interfacing with other similar chairs in a way such that each chair occupies less area space on average in a nested position than it does in an operable position. Nesting chairs may be used in rooms such as conference rooms or meeting spaces where the meeting area may be rearranged from a seating configuration to an open space configuration. Such nesting chairs may be horizontally stacked, aligned, and/or lined up in a front-to-back configuration, such as along a wall or corridor, to minimize space occupied by the nested chairs. Nesting chairs may eliminate the need to lift and stack chairs, and may further facilitate setup, takedown, and storage of the chairs.

[0025] As used herein, the term "coupled" is used in its broadest sense to refer to elements which are connected, attached, and/or engaged, either directly or integrally or indirectly via other elements, and either permanently, temporarily, or removably. As used herein, the term "swivelably coupled" is used in its broadest sense to refer to elements which are coupled in a way that permits one element to swivel with respect to another element. As used herein, the term "rotatably coupled" is used in its broadest sense to refer to elements which are coupled in a way that permits one element to rotate with respect to another element. As used herein, the term "slidably coupled" is used in its broadest sense to refer to elements which are coupled in a way that permits one element to slide or translate with respect to another element.

[0026] As used herein, the terms "horizontal," "horizontally," and the like are used in their broadest sense to refer to a direction along or parallel to a plane relative to a nesting chair 102, where such plane is defined by the lines H1 and H2 depicted in FIGS. 2-4. Although lines H1 and H2 are not shown in all views, the plane defined by H1 and H2 in FIGS. 2-4 serves to define such plane in all views as such plane is defined relative to nesting chair 102. As used herein, the terms "vertical," "vertically," and the like are used in their broadest sense to refer to a direction along or parallel to a line relative to a nesting chair 102, where such line is defined by the line V1 of FIGS. 2-4. Although line V1 is not shown in all views, line V1 serves to define such line in all views as such line is defined relative to nesting chair 102.

[0027] FIGS. 1-4 depict a nesting chair 102 with a tablet arm 100 in an operable position, according to various embodiments of the present invention. Chair 102 includes a support frame 120, as well as a seatback (back) 106 and a seat 108 coupled to support frame 120. Support frame 120 includes front legs 114 and rear legs 116. Wheels 118 or casters or rollers may be coupled with the ends of front legs 114 and/or rear legs 116 to further facilitate movement and/or placement of chair 102 along a floor. Tablet arm 100 includes support members 110 and 112, and a tablet 104 is coupled with support member

112 according to some embodiments.

[0028] Tablet arm 100 and chair 102 are depicted in an operable position in FIGS. 1-4. As used herein, the term "operable position" is used in its broadest sense to refer to a position in which seat 108 is oriented to permit a user to sit upon it (for example, in a substantially horizontal orientation), and/or in which tablet 104 is in a substantially horizontal orientation and ready for use to support or permit writing or the resting of a hand or arm thereon.

[0029] In order to permit nesting of chair 102, support member 112 is swivelably coupled to support member 110 according to embodiments of the present invention. Support member 110, also herein referred to as a mounting arm, is rigidly coupled with support frame 120; for example, support member 110 may be welded to support frame 120 by welding at weld sites 202, according to some embodiments. Support member 110 may be a fixed support member such as a solid bar, a hollow bar, and/or a tube according to various embodiments of the present invention. Support member 112 is swivelably coupled with support member 110 such that support member 112 swivels along a substantially horizontal plane. Support member 112 may be a solid bar, a hollow bar, and/or a tube according to some embodiments of the present invention. Support members 110 and/or 112 may be made with metal or metal alloy such as steel or aluminum, for example; alternatively, support members 110 and/or 112 may be made with plastic, wood, or other rigid or semi-rigid material according to embodiments of the present invention.

[0030] In addition to the swivelable coupling between support members 110 and 112, tablet 104 is also rotatably coupled to tablet arm 100 at support member 112, according to embodiments of the present invention. As seen in FIG. 3, tablet 104 is rotatably coupled to support member 112 by collars 302, according to embodiments of the present invention. This permits tablet 104 to rotate about axis 304. Such rotation may be, for example, between a substantially horizontal tablet 104 position and a non-substantially horizontal tablet 104 position. A non-substantially horizontal tablet 104 position may be, for example, a vertical orientation, or an almost vertical orientation, or the orientation shown in FIG. 7, according to some embodiments of the present invention. One extent of tablet's 104 rotation may be defined by a stop member 222, as seen in FIG. 2. According to some embodiments of the present invention, stop member 222 is a U-shaped bracket rigidly coupled with support member 112. Such coupling may be welding, for example.

[0031] In the operable position, tablet 104 rests upon stop member 222 in a substantially horizontal orientation. Tablet 104 may be rotated away from stop member 222 along axis 304 until the bottom of tablet 104 contacts tablet stop 1328, which serves to prevent tablet 104 from rotating too far away from stop member 222. According to some embodiments of the present invention, tablet stop 1328 stops rotation of tablet 104 away from stop

member 222 at a position where tablet 104 is short of being in a vertical orientation. In some embodiments, tablet stop 1328 stops rotation of tablet 104 at a position where tablet 104 is in the angular position depicted in FIG. 7. Placement of tablet stop 1328 on support member 112 may be varied to achieve different predetermined rotation angles, as measured between tablet 104 in the operable position and tablet 104 after being rotated about axis 304.

[0032] In addition to the swivelable coupling between support members 110 and 112, and the rotatable coupling of tablet 100 to support member 112, a slidable coupling may also be included between tablet 104 and support member 112 according to some embodiments of the present invention. Collars 302, in addition to rotatably coupling tablet 104 with support member 112, may also slidably couple tablet 104 with support member 112. Such a slidable coupling permits tablet 104 to be translated horizontally along axis 304 of support member 112 while tablet arm 100 is in the operable position, for example. This translation or sliding permits a user of tablet arm 100 to position tablet 104 closer or further from the body to position tablet 104 to varying body sizes and types and to varying usage posture preferences. Such sliding permits a wider array of positioning choices than a tablet arm which merely permits tablet rotation about a single vertical axis. And the combination of support member's 112 ability to swivel in a substantially horizontal plane and a slidable coupling between tablet 104 and support member 112 permits a much larger number of positional placements of tablet 104 along a horizontal plane, and permits a user to fine tune or customize with precision tablet 104 placement, according to various embodiments of the present invention.

[0033] FIGS. 5-8 depict the chair 102 and tablet arm 100 of FIGS. 104 in a nested position according to embodiments of the present invention. The nested position of chair 102 includes a rotation of seat 108 toward seatback 106, such as, for example, a rotation of seat 108 to a substantially vertical orientation. The nested position of tablet arm 100 includes a rotation of tablet 104 away from stop member 222, as well as a swiveling of support member 112 along axis 206 toward seatback 106. According to some embodiments of the nested position of the present invention, tablet 104 is rotated away from stop member 222 until tablet 104 contacts tablet stop 1328; according to other embodiments, tablet 104 is rotated away from stop member 222 through a smaller rotation angle. According to some embodiments of the nested position of the present invention, once tablet 104 has been rotated away from stop member 222, support member 112 may be swiveled toward seatback 106 until stop member 222 contacts seat back as depicted in FIG. 7; according to other embodiments, support member 112 is stopped short of stop member 222 contacting seatback 106. According to some other embodiments of the nested position of the present invention, tablet 104 may rest above seatback 106 as depicted in FIG. 7; according

other embodiments, tablet 104 may rest above and contact seatback 106.

[0034] Once a chair 102 and tablet arm 100 have been changed from the operating position to the nested position, several chairs 102 may be nested together to save space. FIGS. 9-11 illustrate how two chairs 102 may be nested and stored according to embodiments of the present invention. Once in the nested position with seat 108 rotated toward seatback 106 and with support member 112 swiveled inward toward seatback 106 with tablet 104 rotated away from stop member 222, two chairs 102 may be placed front-to-back according to some embodiments of the present invention. The front legs 114 of a first chair 102 pass between the rear legs 116 of a second chair 102 in front of the first chair. Multiple chairs 102 may be nested and/or stored in this fashion, with each chair 102 occupying significantly less area space on average in the nested configuration than in the operable position. In addition to two similar chairs 102 being nested in this fashion, a nesting chair 102 with a nesting tablet arm 100 may also be nested with a regular nesting chair 102 lacking a nesting tablet arm 100. According to various embodiments of the present invention, various such combinations of nesting chairs with and/or without nesting tablet arms 100 may be nested together to save space.

[0035] Current nesting chairs having tablet arms which are nested to the side of the chair take up more space to the sides of the chair, because the tablets in such cases must often be angled outwardly so as not to contact the subsequent nested tablet. However, according to embodiments of the present invention, positioning tablets 104 above seatbacks 106 in a nested position, rather than in the horizontal side space around each chair 102 (which is the space to either side of chair 102 along horizontal line H1), further saves such space to either side of the chair.

[0036] FIGS. 12-14 depict exploded views of tablet arm 100, illustrating how tablet arm 100 may be made according to various embodiments of the present invention. Tablet 104 is slidably and rotatably coupled with support member 112 by collars 302, according to some embodiments of the present invention. Support member 112 may include a horizontal section 1330 and a vertical section 1332, and according to some embodiments in which horizontal section 1330 is tubular, an end cap 1308 may be placed at an end of horizontal section 1330. Collars 302 may include an outer collar section 302b, an inner collar section 302c, and a collar attachment tongue 302a with holes 302d. Inner collar section 302b and outer collar section 302c may be injection-molded plastic components which snap together around horizontal section 1330, for example.

[0037] Once collar sections 302b, 302c have been secured around horizontal section 1330, collar attachment tongue 302a may be placed over both collar sections 302b, 302c and attached to tablet 104. Collar attachment tongue 302a may be attached to tablet 104 via bolts 1336 applied through holes 302d and into attachment holes

1334. Alternatively, collar attachment tongue 302a may be attached to tablet 104 via screws, nails, staples, adhesive, welding, or other suitable attachment means. Collar attachment tongue 302a is held to tablet 104 with a force sufficient to maintain attachment between collar attachment tongue 302a and tablet 104 and to maintain a relatively fixed position of collar sections 302b, 302c with respect to tablet 104, while permitting collar sections 302b, 302c to rotate and slide with respect to horizontal section 1330. According to some embodiments of the present invention, the greater the force between attachment tongue 302a and tablet 104, the greater the friction between horizontal section 1330 and collar sections 302b, 302c, and the more difficult to rotate and/or slide tablet 104 with respect to horizontal section 1330. Therefore, varying levels of friction and tightness between collar sections 302b, 302c and horizontal section 1330 may be achieved according to embodiments of the present invention.

[0038] Horizontal sliding of tablet 104 with respect to horizontal section 1330 is limited by stops 1302, 1304 according to various embodiments of the present invention. Although FIG. 13 depicts tablet 104 coupled with support member 112 via two collars 302, a single collar may be used according to embodiments of the present invention. However, using two or more such collars, and/or increasing the width of one or more such collars, may serve to increase stability and durability of tablet arm 100. FIG. 13 depicts forward and rear collars 302. The forward collar 302 couples horizontal section 1332 to tablet 104 in a location between a front stop 1302 and a rear stop 1304. Front stop 1302 and rear stop 1304 serve to limit horizontal sliding of tablet 104 along horizontal section 1330. In a forward operable position, forward collar 302 abuts front stop 1302 and can slide no further in a direction towards front stop 1302. In a rearward operable position, forward collar 302 abuts rear stop 1304 and can slide no further in a direction towards rear stop 1304. Thus, the sliding or translational distance of tablet 104 along horizontal section 1330 achievable by a particular embodiment of the present invention may be calculated by measuring a distance between front stop 1302 and rear stop 1304 along horizontal section 1330, then subtracting the width of the forward collar 302. According to some embodiments of the present invention, such sliding or translational distance of tablet 104 is between two and four inches.

[0039] Although forward stop 1302 and rear stop 1304 are depicted as pegs or bars protruding from horizontal section 1330 according to embodiments of the present invention, stops 1302 and 1304 may alternatively be bumps, ridges, collars, bends, lips, or other irregularity coupled with or formed on horizontal section 1330 and configured to halt sliding of forward collar 302. According to some embodiments of the present invention, front stop 1302 and rear stop 1304 are connected by a crossbar 1306, such that stop member 222 is a U-shaped bracket that may be coupled with horizontal section 1330 such

as, for example, by welding. According to such embodiments, forward collar 302 may be attached over horizontal section 1330 at any point between front stop 1302 and rear stop 1304. Although horizontal sliding of tablet 104 is governed by forward collar 302 and stops 1302, 1304 according to some embodiments of the present invention, a rearward collar 302 may be included for further stability.

[0040] Collar section 302c may be flat on top as illustrated in FIG. 13 to permit tablet 104 to rest flatly against collar section 302c. Stop member 222 may be coupled with horizontal section 1330 in a configuration which permits tablet 104 to rest flatly against both collar sections 302c and crossbar 1306 when tablet arm 100 is in the operable position; according to some embodiments, a slight upward angle of stop member 222 with respect to horizontal section 1330 may achieve this purpose, as seen from the front view of FIG. 2.

[0041] FIGS. 13 and 14 also illustrate a swivel coupling between support member 112 and support member 110, according to some embodiments of the present invention. The vertical section 1332 of swiveling support member 112 includes slots 1326a, 1326b formed within vertical section 1332. A sleeve 1312 is configured to surround at least part of vertical section 1332; sleeve 1312 is further configured for insertion into a sleeve receptacle 1310 coupled with and/or protruding from fixed support member 110. According to some embodiments of the present invention, sleeve receptacle 1310 extends substantially vertically from an end of support member 110. Sleeve receptacle 1310 includes threaded holes 1404a, 1404b sized for threadable interface with threaded pins 1316a, 1316b. According to some embodiments of the present invention, sleeve 1312 may be made with two identical injection-molded plastic pieces 1312a, 1312b configured to snap together and/or be otherwise coupled around lower end of vertical section 1332. Holes 1314a, 1314b formed in sleeve half 1312a may be similar or identical to holes 1402a, 1402b formed in sleeve half 1312b, according to some embodiments of the present invention, and may be sized to permit threaded pins 1316a, 1316b to pass therethrough.

[0042] According to some embodiments of the present invention, sleeve 1312 may be placed around at least part of vertical section 1332 such that holes 1402a, 1402b approximately align with slots 1326a, 1326b, respectively. In some embodiments, bottom end 1318 of vertical section 1332 may contact bottom 1324 of sleeve 1312 for further vertical support. Sleeve 1312 may be placed into sleeve receptacle 1310, such that protruding lip 1320 of sleeve 1312 rests upon top ledge 1322 of sleeve receptacle; such a configuration may permit weight applied to tablet 104 to be further distributed through sleeve 1312, protruding lip 1320, and sleeve receptacle 1310 instead of exclusively through slots 1326a, 1326b to pins 1316a, 1316b.

[0043] Once sleeve 1312 is placed into sleeve receptacle 1310, holes 1404a, 1404b are approximately aligned with holes 1402a, 1402b and with slots 1326a,

1326b. Threaded pin 1316a may be threaded through hole 1404a until threaded pin 1316a also passes through hole 1402a in sleeve 1312 and into slot 1326a in vertical section 1332, while being held in a fixed position with respect to sleeve receptacle 1310 by the threaded connection between sleeve receptacle 1310 and pin 1316a. Threaded pin 1316b may be threaded through hole 1404b until threaded pin 1316b also passes through hole 1402b in sleeve 1312 and into slot 1326b in vertical section 1332, while being held in a fixed position with respect to sleeve receptacle 1310 by the threaded connection between sleeve receptacle 1310 and pin 1316b.

[0044] According to such embodiments of the present invention, threaded pins 1316a, 1316b are fixed relative to sleeve receptacle 1310, which is fixed relative to support member 110 and thus relative to nesting chair 102. Because threaded pins 1316a, 1316b also pass through holes 1402a, 1402b, sleeve 1312 is also prevented from rotating substantially with respect to sleeve receptacle 1310. However, vertical section 1332 may freely rotate within sleeve 1312 limited only by the extent of slots 1326a, 1326b. Support member 112 may be swiveled in one direction until threaded pins 1316a, 1316b contact an end of each slot 1326a, 1326b, thus halting rotation in that one direction. Support member 112 may also be swiveled in the opposite direction until threaded pins 1316a, 1316b contact another end of each slot 1326a, 1326b, thus halting rotation in that opposite direction. Thus, the angle through which support member 112 may swivel in a substantially horizontal plane is directly related to the angular extent of slots 1326a, 1326b formed within vertical section 1332, according to embodiments of the present invention.

[0045] According to embodiments of the present invention, slots 1326a, 1326b are of sufficient extent and placement to permit swiveling of tablet arm 100 toward seatback 106 into the nesting position as shown in FIGS. 5-8, and to permit swiveling of tablet arm 100 away from seatback 106 by an angle as measured between seatback 106 and horizontal section 1330. This angle, as measured between seatback 106 and horizontal section 1330 about axis 206, may be a predetermined angle at which swiveling of second support member 112 may be halted. According to some embodiments of the present invention, such angle may be approximately 90 degrees, corresponding to the horizontal section 1330 pointing straight forward. According to other embodiments of the present invention, such angle may be between 90 and 180 degrees, such as, for example, 120 degrees so that tablet 104 may be pushed slightly toward the side of chair 102 to permit easier access for sitting down on or standing up from chair 102.

[0046] Although FIGS. 13 and 14 depict a smaller diameter support member 112 fitting within a larger diameter sleeve receptacle 1310 of support member 110, a similar swivelable coupling may be achieved with a larger diameter receptacle coupled with support member 112 fitting over a smaller diameter support member 110.

Based on the disclosure provided herein, one of ordinary skill in the art will recognize a number of ways in which the swivelable coupling of support member 112 and support member 110 may be achieved. And although FIGS. 13 and 14 depict a swivel joint having pins 1316a, 1316b protruding from an outer diameter into slots 1326a, 1326b, the swivel joint between support member 110 and support member 112 may alternatively be formed in a variety of ways to achieve a similar result according to some embodiments of the present invention, such as, for example, by using protruding pins coupled with support member 112 which protrude through slots formed in support member 110, by using springs or other spring-like devices to limit swiveling of support member 112, and/or by using fins or ridges or protrusions on support member 110 and/or support member 112 which make contact at certain swiveling angles to halt swiveling of support member 112 with respect to support member 110. Springs or spring-like devices may also be used to provide resistance, dampening, and/or control in the slidable or rotatable coupling between support member 112 and tablet 104, according to some embodiments of the present invention.

[0047] Various configurations of tablet arm 100 are possible in addition to the nested position and the operable position, according to embodiments of the present invention. For example, when user of chair 102 and tablet arm 100 is finished with using the tablet arm 100 and tablet 104, the user may simply rotate tablet 104 along axis 304 in order to more easily stand up from the seated position. According to some embodiments of the present invention, slots 1326a and 1326b permit a slight outward rotation of tablet 104 along axis 206 for this purpose. As described above, the extent of such outward rotation may be controlled by selecting the extent of the slot 1326a, 1326b circumference.

[0048] As can be seen from the above description, several elements of various embodiments of the present invention are standard, interchangeable, interconnectable, and/or modular for increased manufacturing and installation efficiency. Embodiments of the invention have now been described in detail for purposes of clarity and understanding. However, it will be appreciated that certain changes and modifications may be practiced within the scope of the appended claims. Thus, although the invention is described with reference to specific embodiments and figures thereof, the embodiments and figures are merely illustrative, and not limiting of the invention. Rather, the scope of the invention is to be determined solely by the appended claims.

Claims

1. A tablet arm for a nesting chair, the tablet arm comprising:

a first rigid support member affixed to a nesting

chair;

a second rigid support member swivelably coupled to the first rigid support member;

a tablet rotatably and slidably coupled to the second rigid support member by a collar;

a first stop coupled with the second rigid support member and configured to abut a first end of the collar in a forward operable position of the tablet; and

a second stop coupled with the second rigid support member and configured to abut a second end of the collar in a rearward operable position of the tablet.

2. The tablet arm of claim 1, wherein the second rigid support member swivels along a substantially horizontal plane.

3. The tablet arm of claim 1 or 2, wherein the first rigid support member is tubular.

4. The tablet arm of any of the preceding claims, wherein the second rigid support member is tubular.

5. The tablet arm of any of the preceding claims, wherein the first rigid support member is affixed to the nesting chair via welding.

6. The tablet arm of any of the preceding claims, wherein the first stop and the second stop are formed by a U-shaped bracket attached to the second rigid support member.

7. The tablet arm of claim 6, wherein the U-shaped bracket is attached to the second rigid support member via welding.

8. The tablet arm of claim 6 or 7, wherein the tablet is configured to rest against the U-shaped bracket in the forward operable position and in the rearward operable position.

9. The tablet arm of any of claims 6 to 8, wherein the U-shaped bracket comprises a crossbar piece substantially parallel to the second rigid support member, wherein a first top of the crossbar piece and a second top of the collar form a substantially horizontal plane, and wherein the tablet is configured to rest on the first top and the second top in the forward operable position and in the rearward operable position.

10. The tablet arm of any of the preceding claims, wherein the collar is a first collar, the tablet arm further comprising a second collar configured to rotatably and slidably couple the tablet to the second rigid support member, the second collar coupled with the second rigid support member and separated from the

first collar by either the first stop or the second stop.

- 11.** The tablet arm of any of the preceding claims, further comprising:

a third stop coupled with the second rigid support member and configured to halt rotation of the tablet about the second rigid support member at a predetermined rotation angle.

- 12.** The tablet arm of any of the preceding claims, further comprising:

a swivel joint coupling the first support member with the second support member, the swivel joint including a means for halting swiveling of the second support member away from the chair at a predetermined angle.

- 13.** The tablet arm of any of the preceding claims, wherein the nesting chair comprises a seatback, and wherein the tablet arm is configured to locate the tablet over the seatback in a nested position.

- 14.** The tablet arm of claim 13, wherein an operable position comprises the forward operable position and the rearward operable position, and wherein the nesting chair and the tablet arm occupy a substantially similar amount of horizontal side space in the nested position as the nesting chair and the tablet arm occupy in the operable position.

- 15.** A nesting chair system comprising:

a plurality of nesting chairs having swiveling rotatable tablets, the swiveling rotatable tablets movable from an operable position to a nested position, the swiveling rotatable tablets positioned over seatbacks of the plurality of nesting chairs in the nested position, the swiveling rotatable tablets configured to slide horizontally in the operable position.

- 16.** The nesting chair system of claim 15, wherein the swiveling rotatable tablets are further configured to slide horizontally toward and away from the seatbacks in the operable position.

- 17.** The nesting chair system of claim 15 or 16, wherein the swiveling rotatable tablets are further configured to slide horizontally along a substantially straight support member.

- 18.** The nesting chair system of any of claims 15 to 17, wherein the swiveling rotatable tablets are movable from the operable position to the nested position by swiveling the swiveling rotatable tablets toward the seatbacks and rotating the swiveling rotatable tab-

lets from a substantially horizontal orientation to a non-substantially horizontal orientation.

- 19.** A table arm for a nesting chair comprising:

a tablet;
a nesting chair;
a mounting arm coupled to the nesting chair;
a means for coupling the tablet to the mounting arm;
a means for swiveling the tablet substantially horizontally about the mounting arm;
a means for pivoting the tablet between a substantially horizontal position and a non-substantially horizontal position; and
a means for sliding the tablet in a direction towards or away from the mounting arm.

- 20.** The nesting chair system of claim 19, wherein the means for coupling, the means for pivoting, and the means for sliding are the same means.

- 21.** A nesting chair system comprising:

a plurality of nesting chairs having swiveling rotatable tablets, the swiveling rotatable tablets movable from an operable position to a nested position, the swiveling rotatable tablets positioned over seatbacks of the plurality of nesting chairs in the nested position.

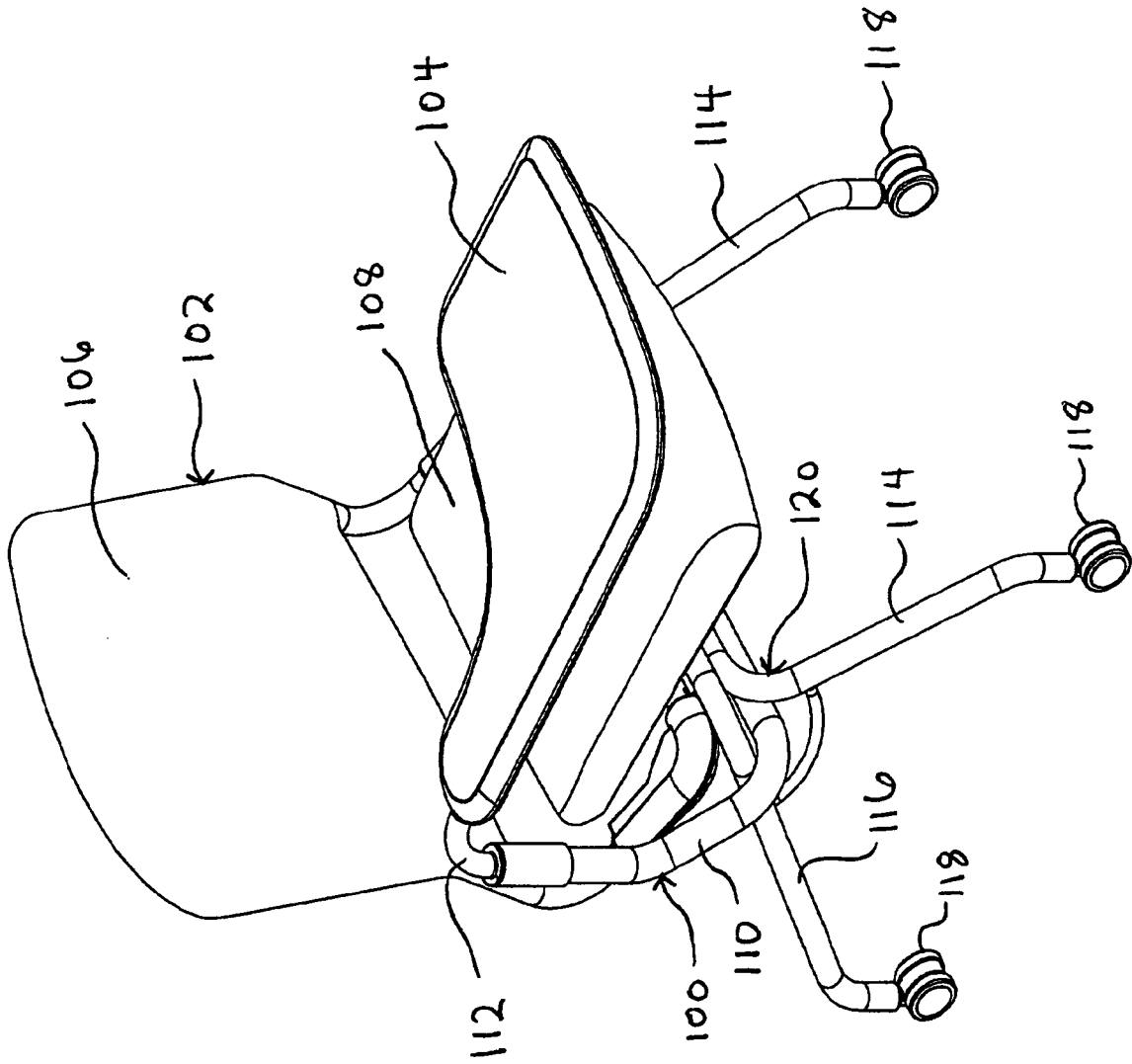


FIG. 1

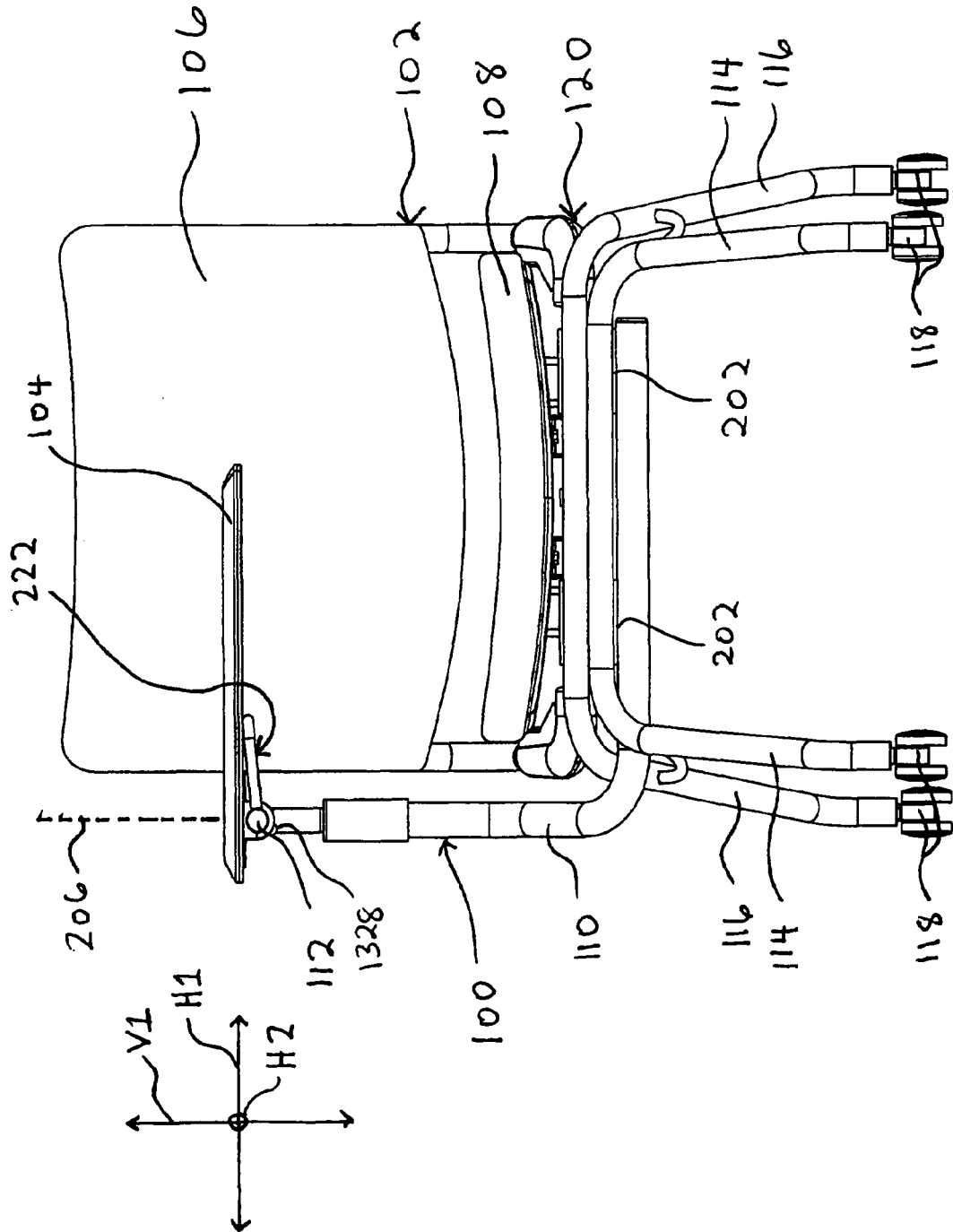


FIG. 2

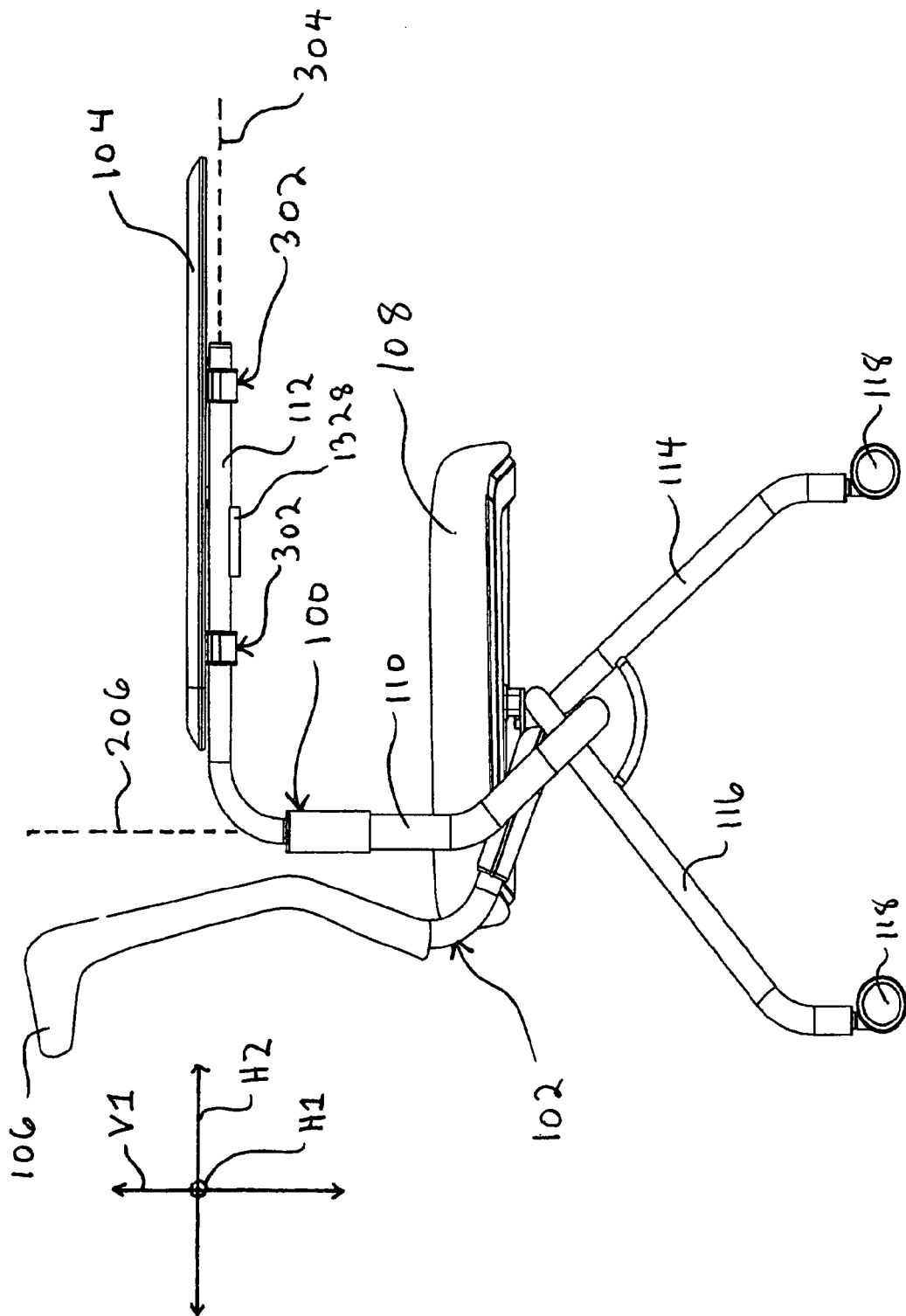


FIG. 3

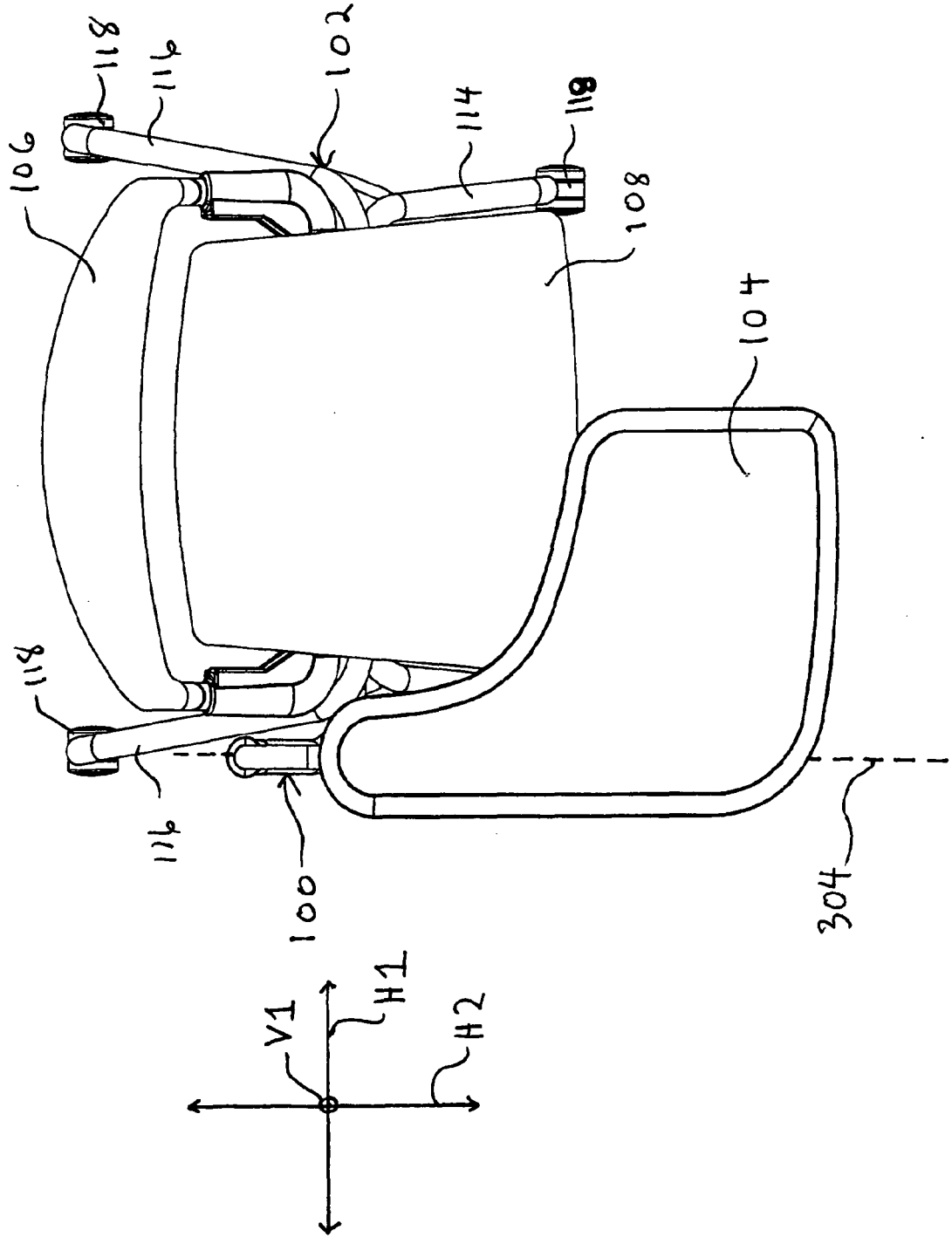


FIG. 4

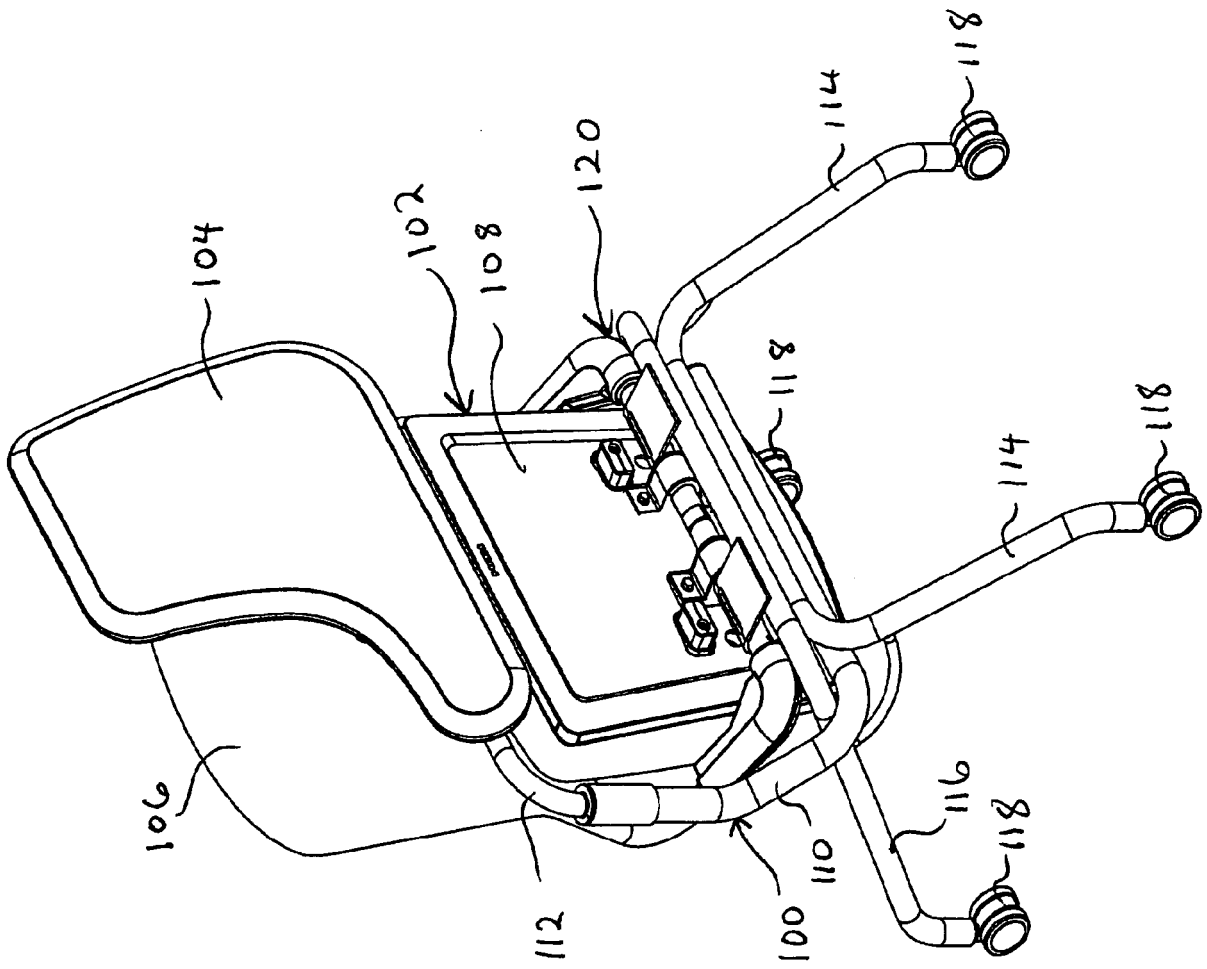


FIG. 5

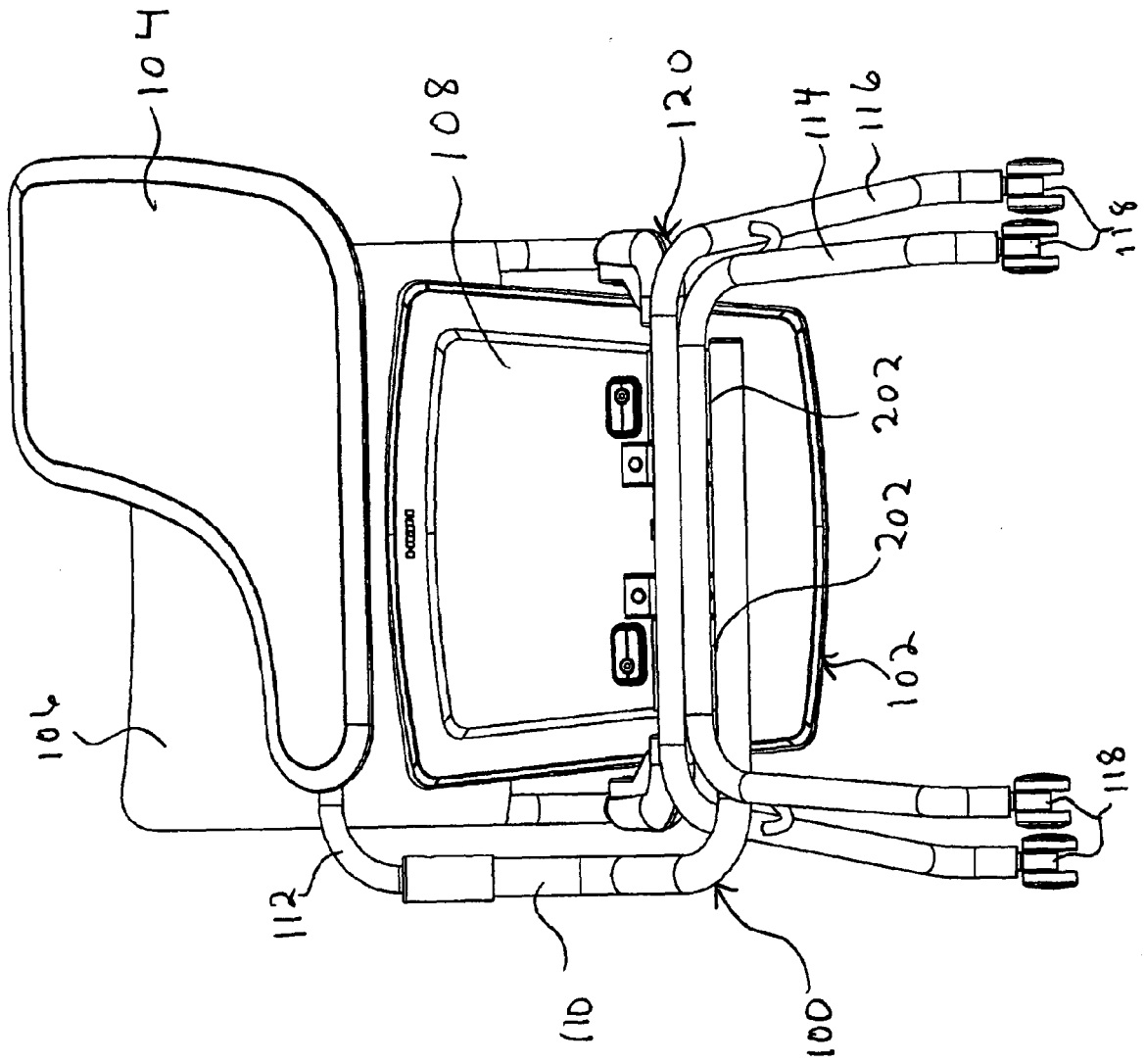


FIG. 6

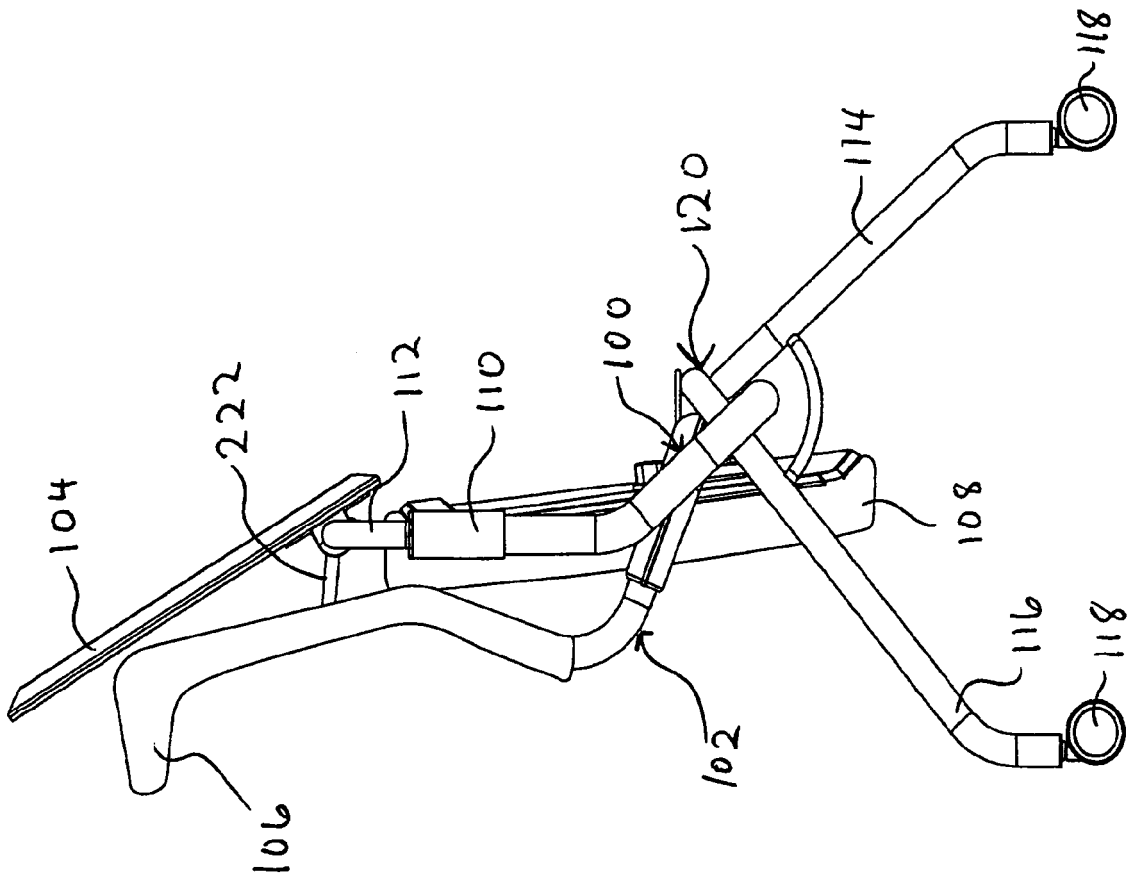


FIG. 7

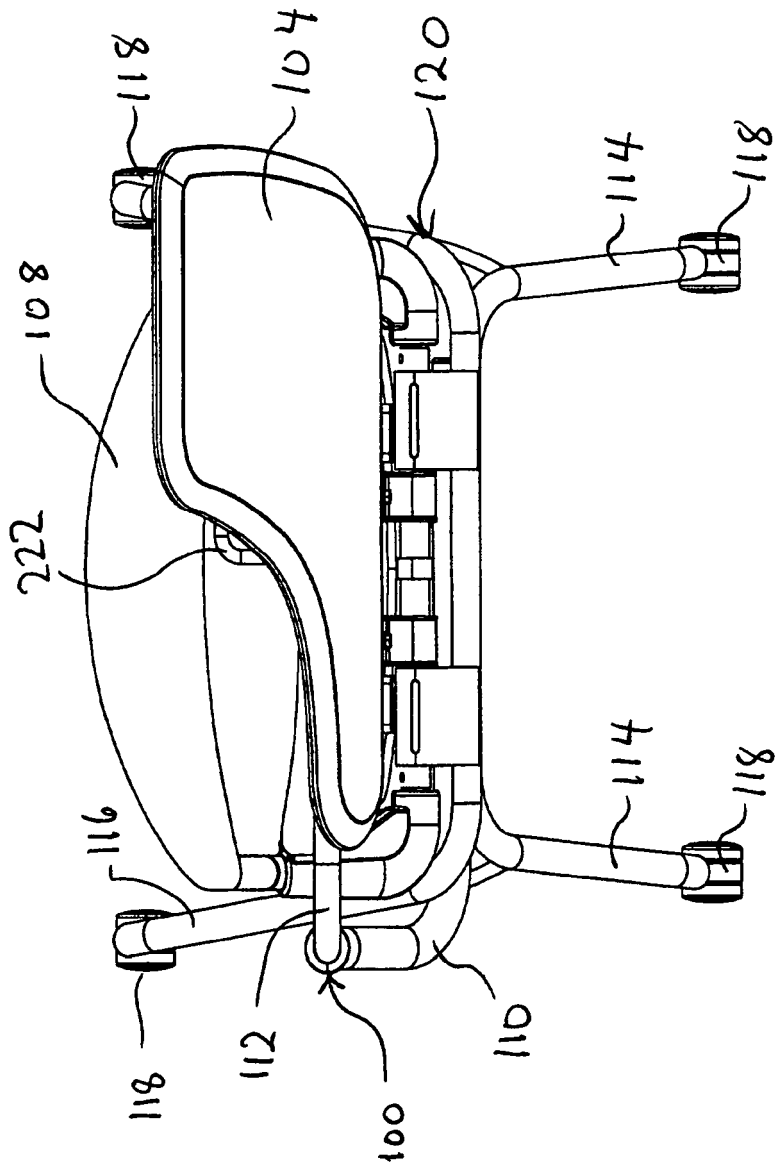


FIG. 8

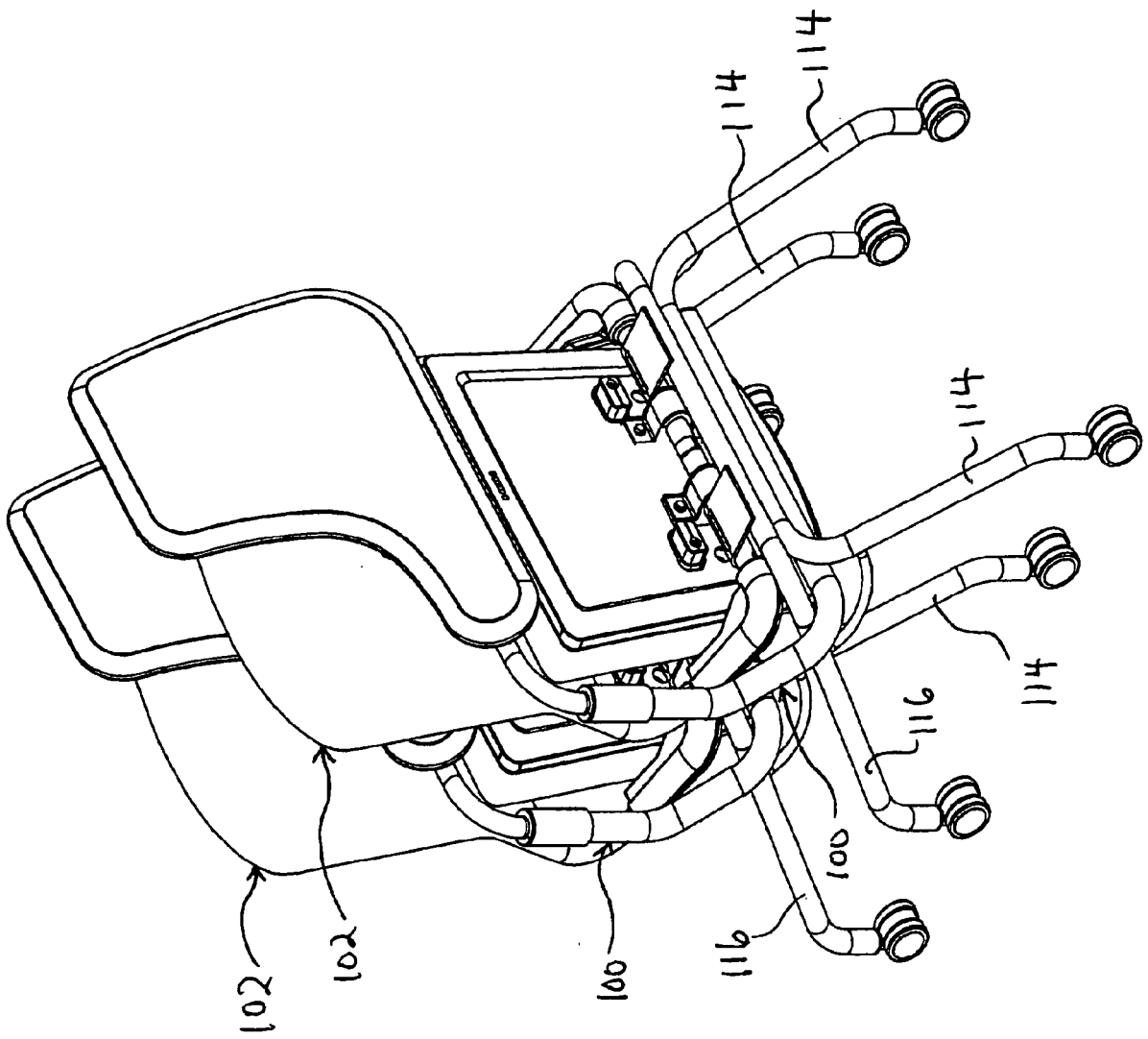


FIG. 9

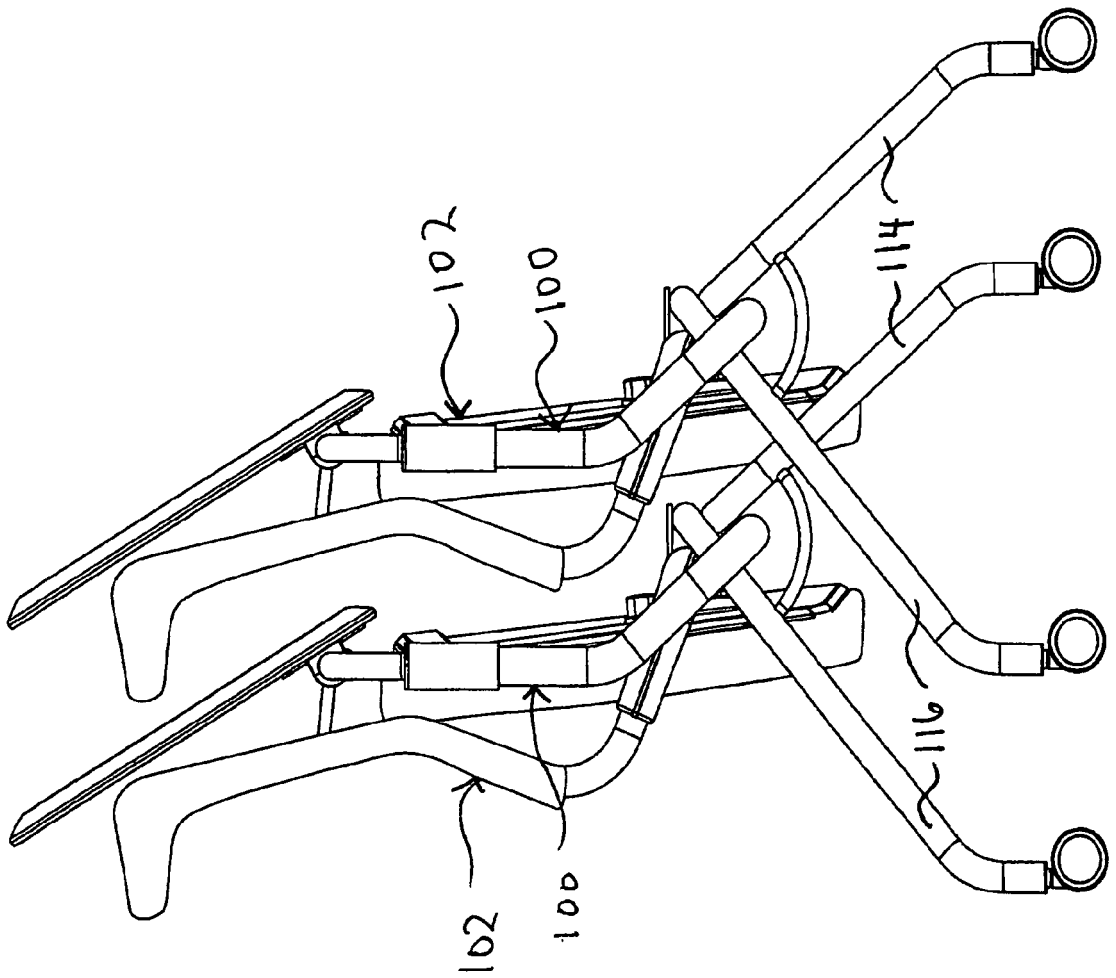


FIG. 10

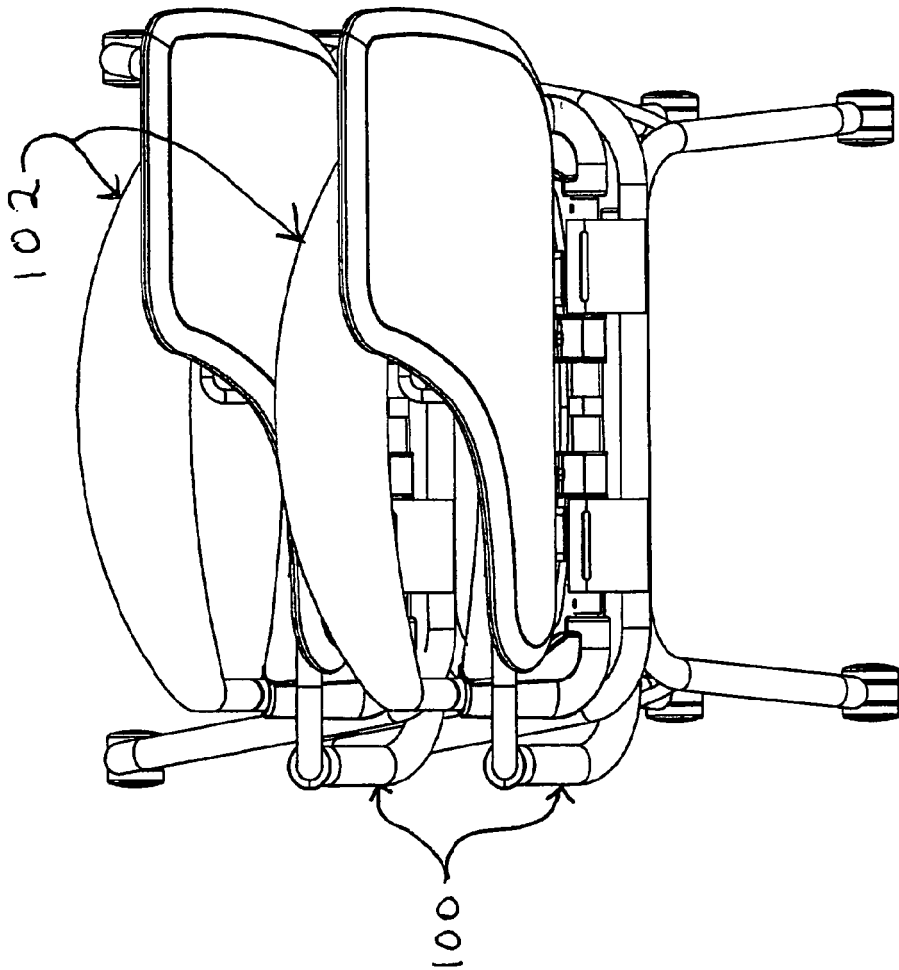
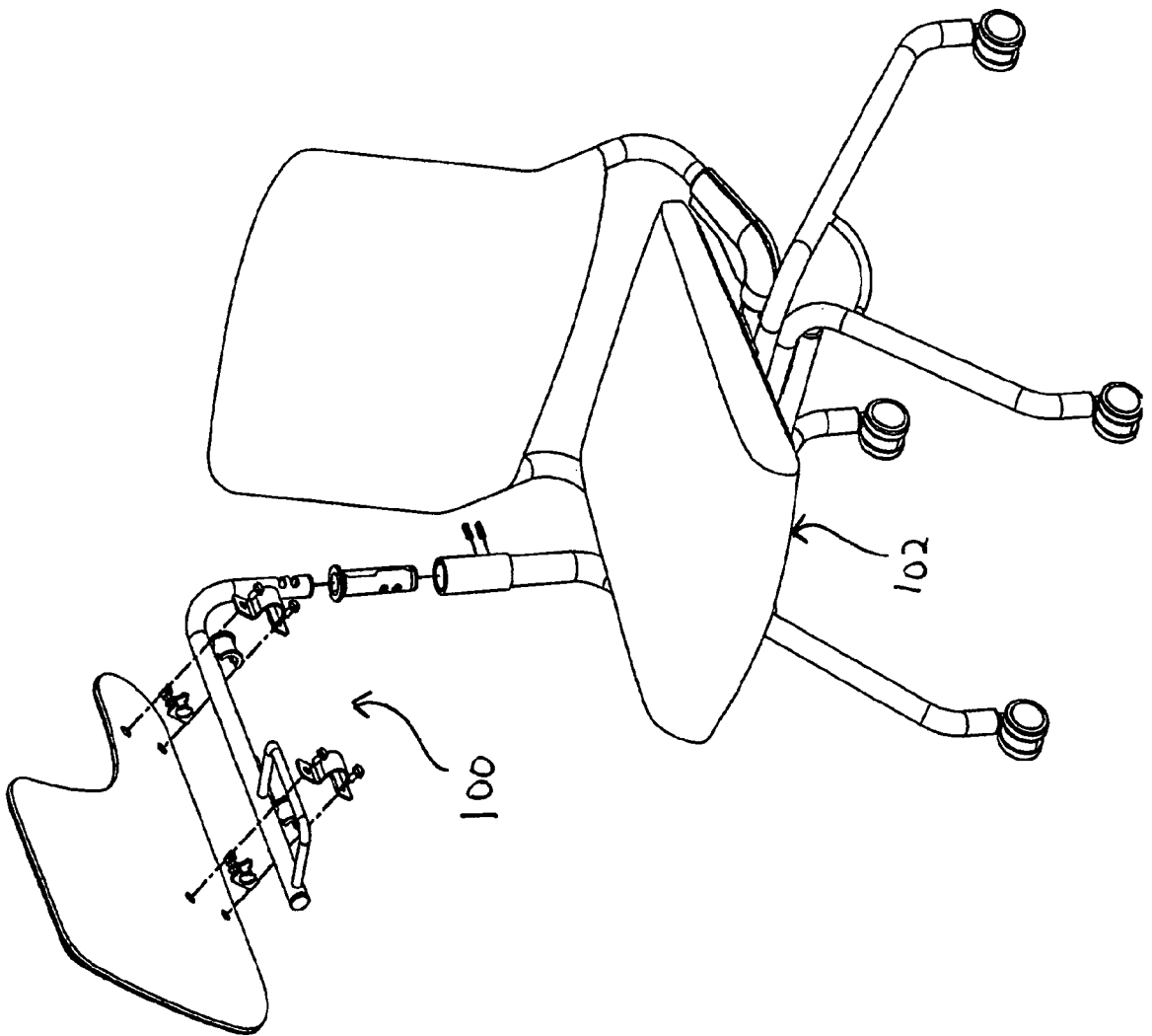


FIG. 11

FIG. 12



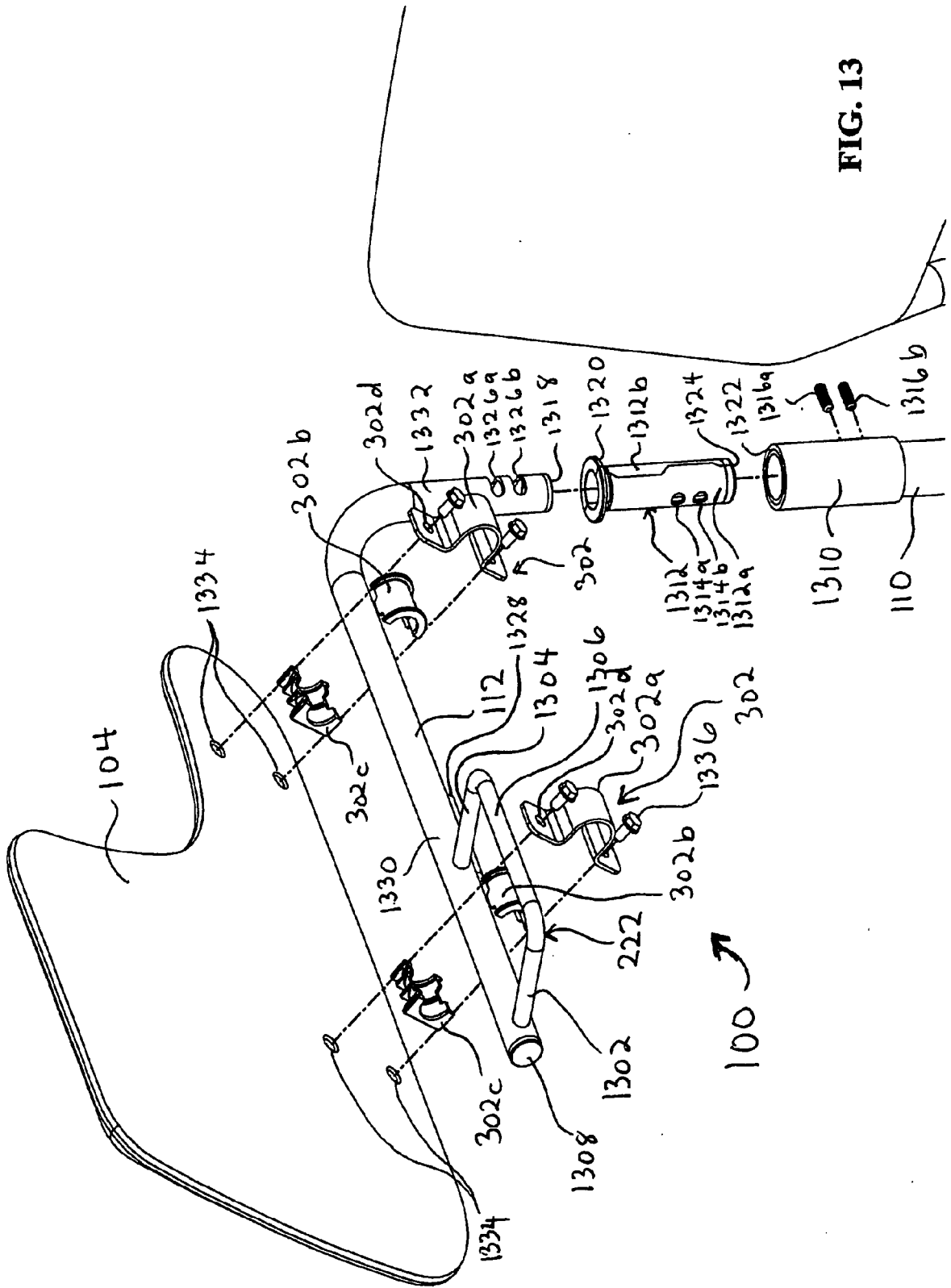


FIG. 13

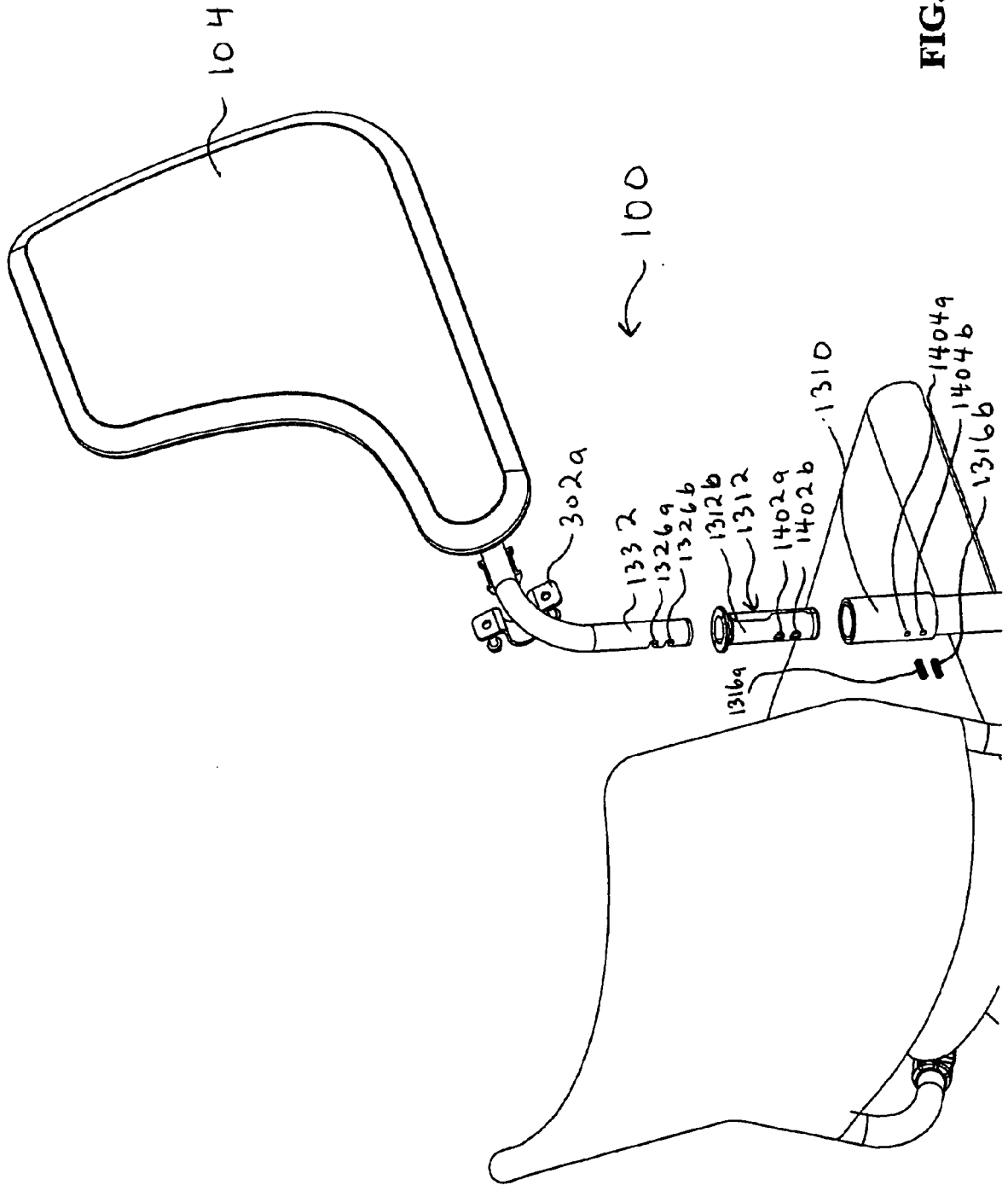


FIG. 14