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(71) Applicant: **Technik Design Limited**
Ellon, Aberdeenshire AB41 7RA (GB)

(72) Inventor: **Wilson, Nicholas**
Ellon, Aberdeenshire
AB41 7RA (GB)

(74) Representative: **Docherty, Andrew John**
Marks & Clerk LLP
Aurora
120 Bothwell Street
Glasgow G2 7JS (GB)

(54) MULTIPURPOSE FURNITURE APPARATUS

(57) A multipurpose furniture apparatus is described, configurable by a user between at least a first and second orientation to provide different functions. The multipurpose furniture apparatus comprises first and second ground-engaging support members (14, 16), an adjoining structure (18) and a seat structure (12); the adjoining structure (18) and the seat structure (12) extend between and laterally separate both the first and second ground-engaging support members (14, 16). In the first orientation, the furniture apparatus is configurable as a chair; the first and second ground-engaging support members (14, 16) being configurable as arms of the chair and supporting the adjoining structure (18), which is configured as a back support. In the first orientation the seat (12) and the adjoining structure (18) are configured to support a user in a seated position. In the second orientation, the adjoining structure (18) is configured as a table top and the first and second ground-engaging support members (14, 16) are configured to support the table top.

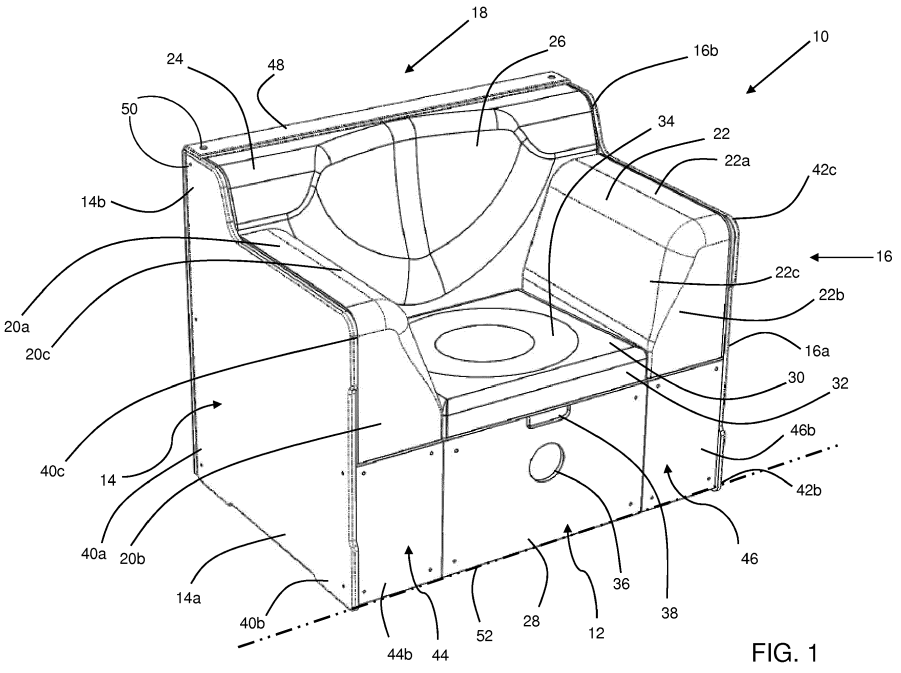

FIG. 1

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Description

FIELD

[0001] Some examples relate to a multipurpose furniture apparatus. In particular, some examples relate to a multipurpose furniture apparatus configurable between two orientations to provide different functions.

BACKGROUND

[0002] Items of furniture are commonplace in locations such as households, schools, nurseries, communal waiting areas and the like. Items of furniture may include, for example, armchairs or couches, desks, tables etc. In an average household, it is not unusual to find several items of furniture, and much consideration may be given by a user when purchasing an item of furniture to ensure that it complements the room in which it is placed. In particular, today many users are attracted to items of furniture which have a unique style, or particular quirk.

[0003] A further consideration when buying an item of furniture is that of size. The dimensions of an item of furniture must be in keeping with those of the room or area in which it is to be placed. Where there may be multiple users of a room or area, multiple items of furniture may be desired in order to align with different user preferences; for example some users may prefer to sit in an armchair to read a book, while others may prefer to do the same task at a desk, and as such multiple items of furniture must be acquired to satisfy the requirements of each user. In some scenarios, a user may have a restricted choice of furniture based on restrictions on the size of the room in which it is to be placed. For example, where a user is buying an item of furniture for a room that is restricted in size, they may be forced to choose between having either fewer items of furniture than is ideal, or furniture which is itself smaller than desired. There therefore may exist a need to provide furniture which is able to fit in a size-restricted room while limiting the sacrifices made by a user based on space available.

SUMMARY

[0004] A first aspect relates to a multipurpose furniture apparatus configurable by a user between at least a first and second orientation to provide different functions, comprising:

first and second ground-engaging support members;
an adjoining structure and a seat structure, the adjoining structure and the seat structure extending between and laterally separating both the first and second ground-engaging support members;
wherein:

in the first orientation the furniture apparatus is configurable as a chair, the first and second ground-engaging support members are configured as arms of the chair and support the adjoining structure, the adjoining structure is configured as a back support, and the seat and adjoining structure are configured to support a user in a seated position; and
in the second orientation, the adjoining structure is configured as a table top and the first and second ground-engaging support members are configured to support the table top.

[0005] In use, the multipurpose furniture apparatus may be able to be reconfigured by a user to provide a single furniture item having at least two functions on demand, e.g. as a chair in the first orientation and as a table in the second orientation. The particular geometry of the furniture apparatus may facilitate the user in configuring the furniture apparatus between orientations (e.g. between the first and second orientation). The furniture apparatus comprises first and second ground-engaging support members which may allow the user to reconfigure the furniture apparatus in a straightforward manner, by providing an identifiable part of the apparatus that should be in contact with the ground in each configuration. Thus, the user is able to switch between various configurations/orientations with ease. In doing so, the requirement of a user to have multiple items of furniture, each dedicated to a specific function, may be negated. As such, the user may be provided benefits in space-saving and cost, as compared to having a single furniture item for each purpose.

[0006] The first and second ground-engaging support members of the furniture apparatus are useable in multiple configurations as support means, which provides simplicity to the functioning of the device. As such, the user may be able to reconfigure the device in a straightforward manner, and without the requirement for specialist tools or to fundamentally change the structure of the apparatus.

[0007] Further, the unique ability of the furniture apparatus to reconfigure between a first and second orientation adds a novelty to the apparatus that is enjoyable to experience for the user. Younger users of the furniture apparatus may find this novel aspect particularly attractive. The furniture apparatus therefore offers the user benefits which are both practical and entertaining.

[0008] The user may be able to configure the furniture apparatus between orientations, for example between the first and second orientation, by repositioning the furniture apparatus. Repositioning of the furniture apparatus may include rolling, pivoting, turning or the like, of the apparatus, while maintaining contact with a ground surface, which may allow the user to reconfigure the orientation of the apparatus with minimal effort. Rolling, pivoting, turning, or the like, of the apparatus may permit the user to sequentially configure the apparatus between different orientations. The furniture apparatus may be rolled, turned, pivoted, or the like by an angle of, for ex-

ample, approximately 90 degrees to configure the furniture apparatus between orientations (e.g. between the first and second configuration).

[0009] Repositioning the furniture apparatus may also be achieved by lifting and turning, which may provide the user with more control than other methods.

[0010] The ground-engaging support members engage with a surface upon which the furniture apparatus is placed and may provide stability to the apparatus. The ground-engaging support members may provide stability to the apparatus in use, regardless of the orientation of the apparatus. The lateral separation of the ground-engaging support members may assist to provide stability to the furniture apparatus. For example, having a greater lateral separation of the ground engaging support members may assist to improve the stability of the furniture apparatus. For example, the length of lateral separation of the ground engaging support members may be greater than the length and/or height and/or width of the ground-engaging support members. Additionally or alternatively, the length of the lateral separation of the ground-engaging support members may be greater than the height of a weight bearing surface in an orientation of the furniture apparatus. A weight bearing surface may be, for example, the seat (or surface thereof configurable to be in contact with the body of a user) when the furniture apparatus is in the first configuration, or the adjoining structure when configured as a table top in the second configuration.

[0011] Having the first and second ground-engaging support members configured as arms of a chair when the furniture apparatus is in the first orientation allows for simplicity of design as compared to having separate parts to perform the function of chair arms.

[0012] The adjoining structure extends between the first and second ground-engaging support members such that, in each orientation of the furniture apparatus, the adjoining structure has an appropriate orientation depending on the intended use of the furniture apparatus. For example, when the furniture apparatus is in the first orientation, the adjoining structure extends between the ground-engaging support members in an orientation suitable to support a user in a seated position. Similarly, when the furniture apparatus is in the second orientation, the adjoining structure extends between the ground-engaging support members in an orientation suitable for use as a table top. As such, the function of the adjoining apparatus may be dependent on the orientation of the furniture apparatus.

[0013] The function of components of the furniture apparatus may change depending on the orientation of the furniture apparatus. For example, in the first orientation the ground-engaging support members may form the arms of the chair, while in the second orientation the arms of the chair may be in engagement (e.g. in contact or near contact) with a ground surface. As such, the dimensions of the furniture apparatus may be defined with a multipurpose consideration. For example, ground-engaging support members may be configured to form relatively high arms when the furniture apparatus is in the first orientation, so as to provide a larger area for engagement with the ground surface when in the second orientation. As such, the ground-engaging support members may be dimensioned such that the arms extend all of, or a majority of, the height of the furniture apparatus when in the first configuration. For example, the arms of the chair may extend to 80% of the height of the chair when the furniture apparatus is in the first configuration.

[0014] The lateral separation of the ground-engaging support members provides the furniture apparatus with stability, whilst also providing a sufficient width of extension of the adjoining structure to allow for a furniture apparatus of an appropriate size. In the first orientation, there may be sufficient lateral separation of the ground-engaging support members to provide a space therebetween in which the adjoining structure extends and a user may be located in a seated position. In the second orientation, the lateral separation of the support members provides a sufficient width of extension of the adjoining structure to allow for an appropriately sized table top.

[0015] The user may be able to configure and reconfigure the apparatus, without the requirement of external aid, for example. This may enable the user to quickly and easily switch between configurations, for example, between the first and second orientation.

[0016] The first and second ground-engaging support members may be arranged in an opposing relationship. The first and second ground-engaging members may be parallel or substantially parallel, e.g. have an opposing parallel relationship. The first and second ground-engaging members may be arranged offset from parallel, for example the first and second ground-engaging-members may be offset relative to a central axis between the first and second ground-engaging members.

[0017] Each of the first and/or second ground-engaging support members may define or comprise a ground contact portion, which is in contact with a ground surface in at least one orientation of the furniture apparatus, while the rest of the ground-engaging support members (and the furniture apparatus) may be raised from the ground surface. As such, the ground contact portion may define a contact point between the furniture apparatus and the ground surface. Having a ground contact portion may improve the stability of the furniture apparatus by, for example, preventing the furniture apparatus from rocking on undulations when located on an uneven surface. The particular shape of the first and/or second ground-engaging support members may define the ground contact portion or portions. The ground-engaging support members may comprise multiple ground contact portions, for example two, three, four, five or six ground contact portions.

[0018] The ground contact portion may protrude from the relevant ground-engaging support member, for example protrude from a main body of the first and/or second ground-engaging support member. The ground contact portion may be in the form of a rib or dimple, protruding from the ground-engaging support member. The

ground contact portion may have an oblong shape. The ground contact portion may be in the shape of a hemisphere, or a truncated cone.

[0019] The ground contact portion may be integrally formed with the ground-engaging support member. The ground contact portion may be or comprise the same material as the ground-engaging support member.

[0020] The ground contact portion may be or comprise a different material to the ground-engaging support member. For example, the ground contact portion may have material properties which are different (e.g. preferable) as compared to the ground-engaging support member. For example, the ground contact portion may be tougher, harder, more scratch-resistant, or the like when compared to the ground-engaging support member. The ground contact portion may comprise a coating, for example a rubber or a varnish coating. Such a coating may improve the properties of the ground contact portion. For example, such a coating may permit the ground contact portion to be more durable, or prevent wear thereon.

[0021] A single ground contact portion may be configurable to be in contact with a ground surface in more than one configuration of the furniture apparatus. For example, the ground contact portion may be located, or extend around a corner section of the ground-engaging support member.

[0022] As such, the placement of the ground contact portion may determine how many ground contact portions are required. Appropriate placement of a ground contact portion may enable fewer to be required.

[0023] The first and/or second ground-engaging support members may comprise or define a handle or handles. The handle may be used to assist the user in reconfiguring the furniture apparatus between orientations, for example between the first orientation and the second orientation. The handle may assist the user to pivot the furniture apparatus around a pivot axis, or around the centre of gravity of the furniture apparatus. The handle may be defined by a through hole in either or both of the first and second ground-engaging support members. The handle may be a loop-style handle that is affixed to, or forms a part of, the first and/or second ground-engaging support members.

[0024] Both of the ground-engaging support members may have the same shape. The first ground-engaging support member may be a mirror image of the shape of the second ground-engaging support member.

[0025] The first and second ground-engaging support members may have a flat shape, that is, the first and second ground-engaging members may have a generally in-plane shape.

[0026] The ground-engaging support members may have a generally square or rectangular shape. The ground-engaging support members may have a polygonal shape. Such a shape may assist the user in configuring the furniture apparatus between the first and second orientation by, for example, allowing the furniture apparatus to be pivoted about a corner of the ground-engaging support member. The corners of the ground-engaging support members may be rounded to further assist in configuration of the furniture apparatus. Further, the lateral separation of square or rectangular shaped ground engaging support members may provide the furniture apparatus with a generally cubic or cuboidal form. Such a form may assist in permitting the user to better configure the furniture apparatus between orientations (e.g. between a first orientation and a second orientation).

[0027] Having the ground-engaging support members of a generally square or rectangular shape may provide an adequate level of stability to the furniture apparatus, as a square or rectangular shape may allow for the a relatively long side of the ground-engaging support members to be in engagement (e.g. in contact or near contact) with a ground surface.

[0028] The first and second ground-engaging support members may each comprise a pivot point about which the furniture apparatus may pivot to configure the apparatus between configurations (e.g. the first and second orientation). The pivot point may be formed by a corner of the ground-engaging support members.

[0029] The first and second ground-engaging support members may each comprise a plurality of pivot points. Each of the plurality of pivot points may be formed by a corner of either of the first or second ground-engaging support members.

[0030] The furniture apparatus may comprise a pivot axis about which to pivot to enable configuration between orientations (e.g. the first and second orientation). The pivot axis may be formed by a pivot point on the first ground-engaging support member and the second ground-engaging support member. The pivot axis may be formed around, or pass through, the centre of gravity of the furniture apparatus.

[0031] The furniture apparatus may comprise a plurality of pivot axes about which to pivot to enable configuration between orientations. The furniture apparatus may comprise a first pivot axis about which to pivot to configure the furniture apparatus between the first orientation and the second orientation, and a second pivot axis about which to pivot to configure the apparatus between the first orientation and a third orientation, or the second orientation and a third orientation.

[0032] The first and second ground-engaging support members may be or comprise a solid block of material, which may provide a high degree of support for the furniture apparatus.

[0033] The first and second ground-engaging support members may be or comprise a frame of material, which may provide a lightweight property to the furniture apparatus.

[0034] The ground-engaging support members, or a part thereof, may comprise a generally circular or oval or rounded shape. The ground-engaging support members may provide a flat surface or edge with which to engage a ground surface. The ground-engaging support mem-

bers may provide a flat surface comprising a circular, oval or rounded portion. Such a configuration of ground-engaging support member may assist the user in configuring the furniture apparatus between orientations (e.g. the first and second orientation). For example, such a shape of ground-engaging support members may assist the user to roll the furniture apparatus between orientations.

[0035] The furniture apparatus may comprise an external coupling mechanism to allow one furniture apparatus to be coupled to a second furniture apparatus, for example so as to align a first and second furniture apparatus. An external coupling mechanism may be located on either or both of the first and second ground-engaging support members. The external coupling mechanism may be a mechanical latch, or a magnetic coupling mechanism, for example. The external coupling mechanism of a first furniture apparatus may engage the external coupling mechanism of a second furniture apparatus when a ground-engaging support member of a first apparatus abuts a ground-engaging support member of a second furniture apparatus. The external coupling mechanism may permit multiple furniture apparatuses to be aligned, for example, in abutment. As such, a row of furniture apparatuses may be easily configured through use of the external coupling mechanism.

[0036] The ground-engaging support members may each comprise, e.g. have affixed to, a side padded section (e.g. a first padded section and a second padded section). The side padded section may be or comprise a foam portion or a cushioned portion. The skilled person will appreciate that any appropriate padding material may be used to provide a padded section. The side padded section may be located such that, when the furniture apparatus is in the first orientation, the side padded section forms, or forms part of, the arms of the chair. In the second orientation, the padded section may be located adjacent the legs of a user. As such, the padded section may provide the user with additional comfort adapted to the specific use of the furniture apparatus.

[0037] The side padded section may comprise an inclined surface, e.g. a surface extending at an oblique angle relative to a ground surface when in the first orientation. The inclined surface may be an inward facing or user facing surface. In the first orientation, the inclined surface may provide the user with additional space when in the seated position. In the second orientation, the inclined surface may provide a wedge-shaped opening for receiving the legs of a user when seated at the furniture apparatus. For example, the inclined surface may provide a larger access space for receiving the legs of a user when seated at the furniture apparatus, and/or may provide additional room for the legs of a user when seated at the furniture apparatus. As such, the inclined surface of the side padded sections may have a dual purpose of providing more space and comfort for a user when seated in the furniture apparatus in the first orientation, and providing easier access and additional room for the legs of a user when the furniture apparatus is in the second orientation.

[0038] An arm of the chair may comprise an integrated cup holder. The integrated cup holder may be integrated into the ground-engaging support member, the first or second padded section, or partially integrated into both the ground-engaging support member and the first or second padded section.

[0039] The ground-engaging support members may each comprise, or be affixed to, a secondary support structure. Each secondary support structure may be located below the side padded section in some orientations (e.g. the first orientation). In some orientations (e.g. the first orientation and/or the second orientation), the secondary support structure may be in contact with the ground surface, and as such may provide the furniture apparatus with additional structural support.

[0040] Either or both of the ground-engaging support members may comprise an extension section, which extends from the main body of the ground-engaging support member. The extension section may extend in plane with the ground-engaging support member.

[0041] Where both the first and second support members comprise an extension section, the extension section of the first support member may be located laterally opposite the extension section of the second support member. The adjoining structure may extend between the extension section of the first support member and the second support member. As such, the extension section may allow for the furniture apparatus to have a more practical or ergonomic shape.

[0042] The adjoining structure may extend between the extension section of the first ground-engaging support member and the second ground-engaging support member to form at least a part of the back support when the furniture apparatus is in the first orientation, and form at least part of the table top when in the second orientation. As such, having an extension section on the ground-engaging support member may permit the furniture apparatus to provide increased back support to a user when the furniture apparatus is in the first orientation. When the apparatus is in the second orientation, the extension section may provide a larger table top surface than would otherwise be possible. Further, when the apparatus is in the second orientation, the extension section may provide a table top having a section of overhang, which may allow the user easier access to the table top, for example when seated at the table top. In one orientation or orientations, the extension section may be in contact with a surface upon which the furniture apparatus is located. As such, the extension section may be or comprise a ground contact portion, or a plurality of ground contact portions. When in contact with a ground surface, the extension section may assist to stabilise the furniture apparatus. Additionally, when in contact with a ground surface, the extension section may function to limit the movement of the furniture apparatus. For example, the extension section may prevent, or provide an obstacle to, turn-

ing or rolling the furniture apparatus further than intended.

[0043] The ground-engaging support members may comprise a plurality of extension sections.

[0044] The edge of the ground-engaging support members may be rounded or chamfered. This may prevent the edge portions from appearing worn as, for example, it may resist scratching or chipping of the material at the edge of the support member during reconfiguring between orientations (for example by rolling or pivoting).

[0045] The adjoining structure may comprise a flat surface to facilitate use as a table top when the furniture apparatus is in the second orientation. The adjoining structure may comprise a raised structure such as a rib that protrudes around the periphery of the flat surface, or near the periphery of the flat surface. The raised structure may be integrally formed with the flat surface, or may be affixed thereto, for example by gluing, screwing etc. The raised structure may be at least partially defined by a ground-engaging support member or the ground-engaging support members. For example a part of the ground-engaging support member or members may protrude, e.g. at right angles, past the flat surface to form the raised structure or a part of the raised structure. The raised structure may be formed partially by a raised structure and partially by at least one of the ground-engaging support members. The raised structure may be in the form of a continuous structure, or may be discontinuous, which may provide the user with a preferential distribution of space on the flat surface. The raised structure may assist to prevent items being knocked from the flat surface when the furniture apparatus is in the second orientation.

[0046] The adjoining structure may comprise a surface in contact with a ground surface in at least one orientation of the furniture apparatus. An edge of the adjoining structure may be in contact with the ground surface in at least one orientation of the furniture apparatus. The adjoining structure may comprise a ground contact portion, as also defined in reference to the ground-engaging support members.

[0047] The adjoining structure may comprise or define a curved surface. The curved surface may enable the adjoining structure to support the body of a user for optimum user comfort.

[0048] The adjoining structure may comprise or define a flat surface and a curved surface, the flat surface located on an opposite side of the adjoining structure to the curved surface.

[0049] The adjoining structure may comprise a textile and/or fabric portion. Such a portion may enable user comfort, or a degree of customisation to the furniture apparatus.

[0050] The adjoining structure may comprise a back padded section. The back padded section may be or comprise a foam portion or cushioned portion. The back padded section of the adjoining structure may be located so as to be in contact with the body of a user when in a seated position and the furniture apparatus is in the first orientation. The back padded section may be contoured, or have a contoured section, to receive the user when in a seated position. In this way, the back padded section may assist in providing a more ergonomic surface for the user in use, and benefits in comfort and ease of positioning of the user. In the second orientation, the back padded section may be located adjacent (e.g. above) the legs of a user. In this orientation, the contours of the back padded section may provide additional clearance for the legs of a user, or may provide the user with additional leg space. The contoured section may have a dual purpose to receive the body of a user in a seated position when in the first orientation, and then receive the legs of a user when in the second orientation. As such, the contours of the back padded section may assist to provide ergonomic benefits in multiple orientations of the furniture apparatus.

[0051] The back padded section may be integrally formed with the one or both of the padded side sections.

[0052] The padded sections (e.g. the side padded section and the back padded section) may be comprised of padded material contained in a pouch or envelope of material, e.g. a fabric envelope of material with a synthetic foam, cotton, synthetic cotton (for example polymer fibres) or the like. As such, a user may be able to customise the padded section by providing a preferable fabric design, texture, material, or the like. Alternatively, the padded sections may be or comprise a material that has padding qualities, for example a flexible and/or resilient material. The padded sections may be or comprise a plastics material, for example a flexible plastics material. As such, the material of the padded section may assist the user in cleaning the padded section (e.g. the padded section may be wipe clean).

[0053] Some or all of the padded sections (e.g. the side padded section and the back padded section) may be located relative to the ground-engaging support members and/or the adjoining member to prevent contact of the padded section with the ground surface in one, some or all orientations of the furniture apparatus. For example, the ground contact portions of the ground-engaging support members may protrude so as to provide a clearance gap between the furniture apparatus and the ground surface when in an orientation (e.g. the first or second orientation). As such, the geometry of the furniture apparatus, in particular the ground-engaging support members and/or the ground contact portions, may assist to prevent some or all of the padded sections from scuffing, wearing, soiling or the like as a result of contact with a ground surface.

[0054] The adjoining structure may comprise a hard material, such as metal or wood. The flat surface of the adjoining structure may be or comprise a hard material. The flat surface of the adjoining structure may be smooth or comprise a smooth material so as to facilitate its use as a table top.

[0055] The adjoining structure may comprise or define

a compartment or a recess. Access to the recess may be possible when the adjoining structure is in a selected orientation. The adjoining structure may comprise multiple panel members which are laterally offset to provide a compartment therein. The laterally offset panel members may have a parallel orientation. At least a part of the ground-engaging support members may define side walls of the compartment or recess.

[0056] The first and second ground-engaging support members and the adjoining structure may form a horseshoe or U-shaped structure. The first and second ground-engaging support members and the adjoining structure may together form an opening in which the body of a user may be received in a seated position when the furniture apparatus is in the first orientation, and the legs of a user may be received when the furniture apparatus is in the second orientation. The opening may be comprised by an interior surface of the horseshoe shaped structure.

[0057] The seat structure may be configured to fit in the centre of the horseshoe shaped structure.

[0058] The seat structure may be detachably coupled to the first and second ground-engaging support members and/or the adjoining structure. The seat structure may be detachably coupled via a coupling device. The coupling device may be or comprise, for example, at least one of a magnetic coupling device and/or a mechanical coupling device, such as a latch mechanism. As such, the seat structure may comprise or define an attachment mechanism to permit coupling and decoupling with the first and second ground-engaging support members and/or the adjoining structure. Such an attachment mechanism may permit the user to easily detach the seat structure if, for example, deconstruction of the furniture apparatus is required. Detachment of the seat structure may facilitate use of the furniture apparatus in some configurations. For example, in the second orientation, detaching the seat structure may provide a larger opening for receiving the legs of the user, and as such provide more leg-room. Detachment of the seat structure may reduce the weight of the furniture apparatus, and thus facilitate reconfiguration of the apparatus between orientations, for example the first and second orientation.

[0059] The coupling device may alternatively or additionally be or comprise a linkage. At least a part of the linkage may be or comprised in the first and/or second ground-engaging support members and/or the adjoining structure, and at least a part of the linkage may be or comprised in the seat structure. The linkage may be in the form of a linkage profile formed in the seat member and a corresponding linkage profile formed in the first and/or second ground-engaging support members and/or the adjoining member. The linkage profiles may be in the form of a dovetail or T-shaped style connection, whereby the connection is formed by the shape of one profile fitting into another. The linkage profiles may be in the form of a projection (e.g. a projection on the first and/or second ground engaging support members and/or the adjoining member) and a slot (e.g. a slot in the seat member) into which the projection fits. The user may be able to slide the projection into the slot so as to engage the projection and the slot. The projection may be in the form of a dimple or series of dimples, or a rib. The projection and corresponding slot may extend laterally (e.g. in a front-to-back orientation). The slot may extend along a laterally extending surface (e.g. a side surface) of, for example, the seat member, while the projection may extend along a laterally extending surface (e.g. a side surface) of the first and/or second ground-engaging support members. The linkage may prevent unintended decoupling of the seat member from the support members and/or the adjoining member. For example, if a user is in a seated position in the furniture apparatus, the linkage may prevent unintended rotation of the support members and/or the adjoining member relative to the seat member, due to the weight of the user bearing on various surfaces of the furniture apparatus. The linkage may additionally permit the seat member and the support members/adjoining structure to be moved (e.g. lifted) by a user as a single component.

[0060] In a detached configuration, i.e. detached from the furniture apparatus, the seat structure may be useable to support the weight of a user independently of the furniture apparatus. For example, the seat structure may be useable as a stool in the detached configuration. The stool may then support the weight of a user when sitting at the desk.

[0061] In a coupled configuration, i.e. coupled to the furniture apparatus, the seat structure may bear all of, or the majority of, the weight of a user. That is, when in the coupled configuration, the weight of a user may be transferred through the seat structure to a ground surface. In a coupled configuration, the seat structure may transfer some or all of the weight of a user to a ground surface via the furniture apparatus. For example, the seat structure may transfer some or all of the weight of a user to a ground surface via a latch mechanism that couples the seat structure to the furniture apparatus.

[0062] The seat structure may be configured to abut at least one of the first and second ground-engaging support members (or a part thereof) when coupled to the furniture apparatus. The seat structure may be configured to abut the adjoining structure (or a part thereof) when coupled to the furniture apparatus.

[0063] The seat structure may be attached to the first ground-engaging support member, the second ground-engaging support member and/or the adjoining structure by a pivot mechanism, e.g. a hinge. The pivot mechanism may permit the seat structure to pivot between a supporting configuration, in which it is able to support the weight of a user (e.g. a user in a seated position) when the furniture apparatus is in the first orientation, and a stored configuration, in which it is positioned to provide the user ergonomic benefits, for example provide more space for the user. When the furniture apparatus is in the second orientation, the seat structure may be in the stored configuration to provide the user with more leg-space when

in the seated position. The furniture apparatus may comprise a seat storage compartment in which to store the seat structure when in the stored configuration.

[0064] The seat structure may be integrally formed with the first and second ground-engaging support members and/or the adjoining structure. Integrally forming the seat structure may enable ease of manufacture of the seat structure in the furniture apparatus.

[0065] The seat structure may be inclined, or have an inclined surface, relative to a flat ground surface upon which the furniture apparatus is to be located. The inclined surface may be inclined in an upwards direction away from the adjoining structure. The incline may assist to provide comfort to the user in the seated position when the furniture apparatus is in the first orientation, and may prevent the user from slipping out of the furniture apparatus in the first orientation when in a seated position.

[0066] The seat structure may have a generally cubic or cuboid form. The seat structure may comprise a frame, with a hollow interior. The seat structure may comprise four side panels, a top panel and a base panel arranged in the form of a cube or cuboid.

[0067] The seat structure may have the form of a truncated wedge. The seat structure may have a trapezoidal cross-section when viewed from above when in an orientation intended for use. As such, the shape of the seat structure may define the orientation in which the seat structure is coupled to the furniture apparatus, and may assist the user in coupling the seat structure with the furniture apparatus.

[0068] The seat structure may comprise a handle portion, or a plurality of handle portions. The handle portion may be located on a side panel of the seat structure. The handle portion may be in the form of a protrusion, for example a protruding knob, or a loop-type handle, which may assist the user in gripping the handle portion. The handle portion may be a recess or through-hole, which may be easily manufactured, while permitting the user adequate grip.

[0069] The seat structure may have a central storage compartment, which is defined by the frame of the seat structure. The user may be able to use the storage compartment for storage purposes. The storage compartment may be accessible by displacing a part of the seat structure. For example, the storage compartment may be accessible by displacing the whole or a part of a top panel or side panel of the seat structure. A part of the seat structure (e.g. a top panel or a side panel) may be displaced by removing or rotating that part of the seat structure. For example, a part of the seat structure may comprise an attachment mechanism. The attachment mechanism may be a hinge, a latch or a magnetic attachment mechanism, for example.

[0070] The seat structure may comprise a padded seat surface. The padded seat surface may be, or be located on, the top surface of the seat structure. The padded seat surface may be or comprise a foam material. The padded seat surface may be contoured to receive the body of a user in the seated position, so as to provide additional comfort to a user. The padded seat surface may be displaced to provide access to the central storage compartment of the seat structure.

[0071] The furniture apparatus may comprise a plurality of seat structures, for example two or more (e.g. three) seat structures. The plurality of seat structures may extend between the first and second ground-engaging support members. Each of the plurality of seat structures may be detachably coupled to the first and/or second ground-engaging support members and/or the adjoining structure.

[0072] The seat structure, or seat structures, may permit the furniture apparatus to be used by multiple users simultaneously, and as such the seat structures and the furniture apparatus may be sized appropriately. For example, a furniture apparatus comprising two or three seat structures may be elongated (i.e. the lateral separation of the ground-engaging support members may be greater) compared to a furniture apparatus comprising one seat structure. Having a greater number of seat structures may enable the furniture apparatus to be used by multiple individuals simultaneously, and may also improve the stability of the furniture apparatus.

[0073] The furniture apparatus may be configurable between at least three orientations. For example, the furniture apparatus may be configurable between three, four, five, six or more orientations.

[0074] The furniture apparatus may be configurable to a third orientation by rotation of the apparatus by approximately 90 degrees from a different orientation (e.g. from the first orientation and/or the second orientation). The furniture apparatus may be configurable to a third orientation by rotation of the apparatus by and angle less than 90 degrees, for example an angle between 45 and 90 degrees.

[0075] In the third orientation, the adjoining structure may be configured as or provide a user interactive surface. The ground-engaging support members may support the user interactive surface in a desired orientation.

[0076] The user interactive surface may be, or be located on, a display board. In one example, the user interactive surface may be a televisual display, e.g. a LED display. The user interactive surface may form part of the adjoining structure. The user interactive surface may function as a table top when the furniture apparatus is in the second orientation.

[0077] The user interactive surface may be a display board such as a blackboard, or a whiteboard. The user interactive surface may be magnetic, e.g. a magnetic board such as a magnetic whiteboard. The user interactive surface may be able to function as a surface onto which a light display is projected.

[0078] The user interactive surface may be located or stored within the adjoining structure, for example, the user interactive surface may be slidably located within the adjoining structure. The adjoining structure may comprise a recess in which the user interactive surface is

located. The user interactive surface may be able to be slidably withdrawn from the recess. The user interactive surface may be able to be slidably stored in the recess. The user interactive surface may be selectively slidably withdrawn and stored in the recess by the user. The user interactive surface may be able to be slidably withdrawn and stored generally in the same plane as the table top of the second orientation. As such, the user interactive surface may be able to be accessed when required by the user, and located in the recess when not required, so as to provide space-saving benefits to the user, as well as allowing the furniture apparatus to have a more aesthetically appealing and less-bulky shape.

[0079] The user interactive surface may be slidably stored and withdrawn along a defined path. The path may lie in-plane, or substantially in-plane, with the plane of the display surface when in the stored configuration. The path may be a linear path. The path may be curved. The path may be partially linear and/or partially curved. The path may run at an oblique angle relative to the plane of the user interactive surface when in the stored configuration. The angle of the user interactive surface when in the stored configuration relative to the ground surface on which the furniture apparatus is located may be different to the angle of the user interactive surface when in the withdrawn configuration, relative to the ground surface. Having a defined path along which the user interactive surface may slide may assist the user to withdraw and store the user interactive surface, and may prevent injury (e.g. as a result of finger jamming) when storing and withdrawing the display surface.

[0080] The display board may comprise a handle portion to facilitate withdrawal from the recess. The handle portion may be or comprise a through hole in the display board. The handle portion may be or comprise a loop-style handle attached to or integrally formed with the display board.

[0081] The display board or the furniture apparatus may comprise a ledge on which to store pens, chalk etc.

[0082] The user interactive surface may be held in the withdrawn configuration and/or the stored configuration by a securing mechanism. The securing mechanism may be, for example, a latch mechanism or a magnet retaining mechanism. The securing mechanism may hold the user interactive surface in place, when being used, while allowing the user to store the user interactive surface in the recess when required.

[0083] The user interactive surface may be configured at an oblique angle to the surface on which the furniture apparatus is located, when in the third orientation. The user may be able to access the user interactive surface (e.g. write or lean on) more easily when located at an oblique angle.

[0084] Where the furniture apparatus comprises an extension section, the extension section may be in contact with a ground surface in the third orientation. The extension section may facilitate orientation of the adjoining structure at an oblique angle relative to the surface on which the furniture apparatus is located. As such, the extension section may also assist to locate the user interactive surface at an oblique angle relative to the surface on which the furniture apparatus is located.

[0085] The furniture apparatus may be manufactured from a single material, for example a plastics material. The furniture apparatus may comprise, or be comprised of, a moulded plastic part, or multiple moulded plastic parts.

[0086] A second aspect relates to a method for using a multipurpose furniture apparatus, comprising:

providing a multipurpose furniture apparatus configurable between a first orientation and a second orientation by a user, the multipurpose furniture apparatus comprising:

first and second ground-engaging support members; and

an adjoining structure and a seat structure, the adjoining structure and the seat structure extending between and laterally separating both the first and second ground-engaging support members;

configuring the multipurpose furniture apparatus in a first orientation for use as a chair, the first and second ground-engaging support members being configured as arms of the chair, the adjoining structure being configured as a back support, and the seat and adjoining structure being configure to support a user in a seated position;

configuring the multipurpose furniture apparatus in a second orientation, the adjoining structure being configured as a table top and the first and second ground-engaging support members being configured to support the table top.

[0087] The method may comprise rolling or moving the furniture apparatus between orientations. For example, the method may comprise rolling the furniture apparatus between a first orientation and a second orientation. Rolling the apparatus between a first orientation and a second orientation may permit the user to configure the apparatus between orientations with minimal effort.

[0088] The method may comprise providing a seat structure that is detachably coupled to the ground-engaging support members and/or the adjoining structure and uncoupling the seat structure from the ground-engaging support members and/or the adjoining structure. The method may comprise uncoupling the seat structure from the ground-engaging support members and reconfiguring the furniture apparatus, i.e. reconfiguring the furniture apparatus with the seat structure decoupled therefrom. As such, the method may facilitate reconfiguration of the furniture apparatus between orientations by reducing the weight of the furniture apparatus.

[0089] The method may comprise using the seat struc-

ture to support the weight of a user independently of the furniture apparatus.

[0090] The method may comprise configuring the furniture apparatus between orientations (e.g. the first and second orientation) by pivoting the furniture apparatus about a pivot point or pivot axis. The method may comprise pivoting or turning the apparatus by approximately 90 degrees to configure the furniture apparatus between orientations, e.g. the first and second orientation.

[0091] The method may comprise the user configuring the furniture apparatus between orientations without the use of an external tool or aid.

[0092] The method may comprise configuring the furniture apparatus between orientations by lifting and turning the furniture apparatus.

[0093] The method may comprise configuring the multipurpose furniture apparatus in a third orientation, in which the multipurpose furniture apparatus, or a part thereof, may be used as a user interaction device. A user interaction device may be, for example, a television or touch-screen display, a presentation board such as a blackboard and/or magnetic board, or the like. The method may comprise withdrawing a display board from a recess in the multipurpose furniture apparatus. The method may comprise withdrawing a display board from a recess in the adjoining structure of the multipurpose furniture apparatus.

BRIEF DESCRIPTION OF THE DRAWINGS

[0094]

Figure 1 is a schematic illustration of a multipurpose furniture apparatus in a first orientation.

Figure 2 is a schematic illustration of a multipurpose furniture apparatus in a first orientation, with an exemplary seat structure detached.

Figure 3 is a schematic illustration of a multipurpose furniture apparatus in a second orientation, with an exemplary seat structure detached.

Figure 4 is a schematic illustration of a multipurpose furniture apparatus in a third orientation.

Figures 5 and 6 show an example of use of a multipurpose furniture apparatus in a first orientation.

Figures 7 and 8 show an example of use of a multipurpose furniture apparatus in a second orientation.

Figures 9 and 10 show an example of use of a multipurpose furniture apparatus in a third orientation.

Figure 11 illustrates a multipurpose furniture apparatus in a first orientation, with an exemplary seat structure detached, showing an internal compartment in the seat structure.

Figures 12 to 14 are various views of a multipurpose furniture apparatus in a first orientation, showing further detail of an exemplary seat structure.

Figures 15 to 19 are various views of a multipurpose furniture apparatus in a first orientation.

Figures 20 to 23 are various views of a multipurpose furniture apparatus in a second orientation, showing an exemplary seat structure detached.

Figures 24 to 26 are various views of a multipurpose furniture apparatus in a third orientation.

Figure 27 further illustrates use of a multipurpose furniture apparatus in a third orientation.

Figures 28 and 29 show a second example of a multipurpose furniture apparatus in a first orientation.

Figure 30 show a third example of a multipurpose furniture apparatus in a second orientation.

Figures 31 a and 31 b illustrate a further example of a multipurpose furniture apparatus in a first orientation.

Figure 32 is a schematic illustration of a multipurpose furniture apparatus having a plurality of seat structures in a first orientation.

Figures 33 and 34 are various views of a multipurpose furniture apparatus with a plurality of seat structures in a first orientation.

Figures 35 to 37 are various view of a multipurpose furniture apparatus with a plurality of seat structures in a second orientation.

DETAILED DESCRIPTION OF THE DRAWINGS

[0095] Figure 1 is a schematic illustration of a multipurpose furniture apparatus 10 in the first orientation in which it functions as a chair. The multipurpose furniture apparatus 10 comprises a seat structure 12, a first ground-engaging support member 14, a second ground-engaging support member 16 and an adjoining structure 18. The first ground-engaging support member 14 is located opposite the second ground-engaging support member 16. Extending at a right angle between the first ground-engaging support member 14 and the second ground-engaging support member 16 is adjoining structure 18. The adjoining structure 18 may be, for example, a single flat component or panel. Alternatively, the adjoining structure 18 may comprise multiple flat components, arranged in a parallel configuration. Where the

adjoining structure 18 comprises multiple flat components, a recess may be defined therebetween, which may be used as a storage space, for example. In the example shown in Figure 1, the furniture apparatus 10 comprises a retaining member 48. The retaining member 48 is located perpendicular to the adjoining structure 18 and, in this example, forms a boundary of a recess provided between the multiple components (not shown) comprising the adjoining structure 18. The retaining member 48 may assist to secure the back padded section 24 in place relative to the adjoining structure 18.

[0096] Together, the first ground-engaging support member 14, the second ground-engaging support member 16 and the adjoining structure 18 form a U-shaped, or horseshoe shaped, structure, in the centre of which is defined an opening where a user may sit and where is located the seat structure 12.

[0097] The first ground-engaging support member 14 is generally a mirror image of the second ground-engaging support member 16. The first and second ground-engaging support members 14, 16 are flat panel members, comprising a main body section 14a, 16a and an extension section 14b, 16b. In this orientation, the extension sections 14b, 16b protrude upwardly from the top of each support member 14, 16, from a corner thereof, and in-plane with the ground-engaging support members 14, 16.

[0098] Although not shown, the first and second ground-engaging support members 14, 16 may each comprise an external coupling mechanism on an outward facing surface thereof. The external coupling mechanism may be configurable to engage with an external coupling mechanism of a second furniture apparatus, and may assist to align a first furniture apparatus with a second furniture apparatus. The external coupling mechanism may be a mechanical latch mechanism, a magnetic coupling mechanism, or the like.

[0099] In the example shown, each of the first and second ground-engaging support members 14, 16 comprises a respective first and second padded side section 20, 22 affixed thereto, which in this example define the arms of the chair. The skilled reader will appreciate that the first and second padded side sections 20, 22 may be attached to the first and second ground-engaging support members 14, 16 by any appropriate means, for example by glue, mechanical fasteners, ties, Velcro®, or the like. The first and second padded side sections 20, 22 comprise an upper surface 20a, 22a, an outward-facing surface 20b, 22b, and an inward-facing surface 20c, 22c. The inward facing surface 20c, 22c of each of the first and second padded side sections 20, 22, extends at an incline to the vertical in the orientation of the furniture apparatus 10 shown in Figure 1. In this way, a user is provided with additional room, and improved comfort than if the inward-facing surfaces 20c, 22c were to extend vertically. Further, the inward-facing surfaces 20c, 22c, outward facing surfaces, 20b, 22b, and upper surfaces 20a, 22a are connected by curved edges to provide further increased comfort, and an aesthetic appeal to the first and second padded side sections 20, 22.

[0100] Although not shown in this example, the arms of the chair (defined by ground-engaging support member 14, 16 and padded side sections 20, 22, affixed thereto) may comprise an integrated cup holder.

[0101] In this example, each of the first and second ground-engaging support members 14, 16 additionally comprise a respective secondary support structure 44, 46. In the orientation of Figure 1, the secondary support structures 44, 46 are shown located below the respective padded side sections 20, 22, and may assist to support the weight of the padded side sections 20, 22. An outward facing surface 44b, 46b of each of the secondary support structures 44, 46 is shown, and is in the form of a panel. As will be described with reference to the further Figures, the secondary support structures 44, 46 may comprise further supports (e.g. further panels).

[0102] As with the first and second ground-engaging support members, 14, 16, the adjoining structure 18 also comprises, or is affixed to, a back padded section 24. In this example, the back padded section 24 is integrally formed with padded side sections 20, 22, although the person skilled in the art will appreciate that it would also be possible to have each separately formed. The padded back section 24 comprises a contour 26, which is generally shaped to conform to the body of a user in the seated position.

[0103] The seat structure 12 is located in an opening formed by the first and second ground-engaging support members and the adjoining structure 14, 16, 18, and is fitted to be in abutment with each of the first and second ground-engaging support member and the adjoining structure 14, 16, 18. The seat structure comprises a base support 28 (of which only a front panel is shown in Figure 1) and a seat surface 30. Although not shown in Figure 1, the base support 28 may comprise further components (e.g. further panels), which will be described in further detail in relation to other Figures. The seat surface 30 comprises a padded section 32. In this example, the padded section 32 comprises a contour 34 shaped to conform to the body of a user in the seated position. The seat surface 30 is inclined at an angle to the horizontal, and inclines upwardly in the direction away from the abutment between the seat structure 12 and the adjoining structure 18. The base support 28 of the seat structure 12 comprises a handle 36 and a recess 38. In this example, the handle 36 permits the user to move the seat structure 12, for example, to remove the seat structure 12 from the furniture apparatus 10. The recess 38 may function as an additional handle to assist the user in moving the seat structure 12. In this example, the recess 38 also permits detachment of the seat surface 30 from the front panel 28, as well as any further supports, described in more detail in the following Figures.

[0104] The padded side and back sections, 20, 22, 24 may be made out of any suitable padded material, for example foam.

[0105] As shown in Figure 1, the first and second ground-engaging support members 14, 16 each comprise protrusions 40a-c, 42b-c, extending in-plane with the ground-engaging support members 14, 16. In this example, the there are three protrusions, although in other examples there may be more or fewer protrusions. Protrusions 40a, 40b, 42b are in contact with the ground surface in this orientation, although in other orientations, other protrusions may be in contact with the ground surface, as will be described. In this example, protrusions 40a, 40b extend along two sides of first and second ground-engaging support members 14, 16, and as such are in contact with a ground surface in a first orientation and a second orientation, as is described below. The protrusions 40a-c, 42b-c form ground contact portions of the furniture apparatus 10. Having ground contact portions may protect the remaining structure of the ground-engaging support members 14, 16 from scratches, scuffs etc. as a result of being in contact with the ground surface, while also or alternatively providing stability where, for example, the furniture apparatus 10 is located on an uneven surface by assisting to prevent the furniture apparatus 10 from rocking on undulations on an uneven surface. Further, the protrusions 40a-c, 42b-c may provide a clearance gap between parts of the furniture apparatus 10 and a ground surface to prevent scratching, wearing, soiling or the like as a result of contact therewith. Sections of the furniture apparatus 10 identified as ground contact portions may, for example, comprise a treatment or a cover member (not shown) in order to improve their function in this regard. For example, a ground contact portion may comprise a resin, varnish or rubber coating to improve material properties such as durability, toughness, scratch resistance or the like.

[0106] The protrusions 40a-c, 42b-c may also assist in configuring the furniture apparatus 10 between orientations. Corresponding protrusions on the first and second ground-engaging support members 14, 16 provide pivot points about which the furniture apparatus 10 may be rotated to be configured between orientations. As illustrated in Figure 1, the corner of protrusions 40b, 42b provide an axis about which the furniture apparatus 10 may be pivoted, and so reconfigured between orientations, as will become clear with regards the description of further Figures.

[0107] In the example shown, the ground-engaging support members 14, 16 are affixed to the secondary support structures 44, 46 by means of nails or screws 50, as is the retaining member 48 attached to the adjoining structure 18. However, the skilled reader will understand that any appropriate affixing means may be used, for example by chemical bonding.

[0108] Figure 2 illustrates the furniture apparatus 10 of Figure 1, with the seat structure 12 shown separate from the furniture apparatus 10, such that the construction of the seat structure 12 can be shown more clearly. In this example, the seat structure 12 is releasably couplable to the furniture apparatus 10, and has been decoupled therefrom. Although not shown, the seat structure 12 may couple to the furniture apparatus 10 by means of a latch mechanism, a magnetic coupling mechanism, a fabric tie, or the like.

[0109] Figure 2 shows that the base support 28 is a generally cuboid shaped structure, having side panels extending perpendicular to the front panel. The panels of the base support 28 and the seat surface 30 together define a hollow space inside the seat structure 12. Having a hollow space may assist to reduce the weight of the seat structure 12, while also providing a storage space.

[0110] Although the seat structure 12 is illustrated in Figure 2 as having a generally cuboid shape, the skilled reader will appreciate that other shapes of seat structure 12 may be possible. For example, the sides of the seat structure 12 may taper from the front to the back of the seat structure 12 so as to have the shape of a truncated wedge, such that when viewed from above (as shown in Figure 2) the seat structure 12 has a generally trapezoidal shape. In this configuration, the seat structure 12 may be designed so that coupling with the furniture apparatus 10 is only possible in one orientation of the seat structure 12.

[0111] Secondary support structures 44, 46 are shown in further detail in Figure 2. The secondary support structures 44, 46 extend around the periphery below the padded side sections 20, 22 and may provide support thereto. Similar to the secondary support structures 44, 46, the furniture apparatus 10 comprises a rear support structure 54 which is located below the padded back section 24, and may provide support thereto. The rear support structure 54 may be held in place by being affixed to the adjoining structure 18, the secondary support structures 44, 46, or both. The secondary support structures 44, 46 and the rear support structure 54 define an inner surface of the opening provided in the furniture apparatus 10 provided by the first and second ground-engaging support members 14, 16 and the adjoining structure 18.

[0112] Figure 3 illustrates the furniture apparatus 10 in a second orientation. Structurally, the furniture apparatus 10 is the same as that show in Figures 1 and 2, and therefore the same reference numerals have been used. In the second orientation, the furniture apparatus 10 has been repositioned for use as a desk or table. The repositioning may require the simple rotation, pivoting or lifting and turning of the furniture apparatus 10 relative to a ground surface (not shown). In the example illustrated, the seat structure 12 has been decoupled from the furniture apparatus 10, and in this example the seat structure 12 may be used as a stool.

[0113] In the second orientation, the ground-engaging support members 14, 16, support the adjoining structure 18, which is located above the ground-engaging support members 14, 16. The adjoining structure 18 comprises an outwardly-facing flat surface 60, which in the second orientation is upwardly-facing and useable as a table top or a desk, although it will be appreciated that in other

orientations, the flat surface 60 may be facing in other directions (for example in the first orientation, the flat surface is rearwardly facing).

[0114] In the second orientation, the opening formed by the ground-engaging support members 14, 16 and the adjoining structure 18 forms a space to receive the legs of a user when using the furniture apparatus, for example as a desk or a table. The padded side sections 20, 22 are located to the side of the opening, and in this configuration the incline of the inward-facing surface may function to provide the user with additional leg room and also to provide easier access for the legs of a user when moving into and out of the opening. In the example shown, the inclined inward facing surface 20c, 22c, of the side padded sections 20, 22 provides a shape appropriate for receiving the legs of a user, and provides more space for the legs of a user than if the inward facing surfaces 20c, 22c had an orientation parallel to the ground engaging support members 14, 16. Further, the orientation of the incline of the inwards facing surfaces 20c, 22c additionally provides more entry space for the legs of a user by providing a wedge-shaped recess into which the user may position their legs. The padded back section 24 is located above the opening, and the contour 26 therein, which in the first orientation is configured to receive the body of a user, may now provide additional space to allow the legs of a user to be situated under furniture apparatus 10 when in the seated position, for example when sitting on a chair or stool adjacent the furniture apparatus 10. The contour 26 therefore has a dual purpose of receiving the body of a user when the furniture apparatus 10 is in the first orientation and providing a space for receiving the legs of a user when the furniture apparatus 10 is in the second orientation.

[0115] In this example, the extension sections 14b, 16b of the ground-engaging support members 14, 16 allow for a larger adjoining surface 18 to extend therebetween, and thus allow for a larger table top or desk area. Further, the extension sections 14b, 16b provide an overhang section of the furniture apparatus 10, which may provide the user with easier use of the furniture apparatus 10 in the second orientation.

[0116] In the second orientation, protrusions 40b, 42b and 40c, 42c are in contact with the ground surface, while projection 40a (and the equivalent projection on the second ground-engaging support member 16, not shown) has been lifted from the ground surface as a result of the reconfiguration or reorientation of the furniture apparatus 10.

[0117] Figure 4 illustrates a third orientation of the furniture apparatus 10. In this orientation, a user interactive surface of the furniture apparatus 10 may be visible/useable, which may be a presentation board such as a blackboard and/or magnetic board, a touch-screen display, a flat-screen television or the like. To configure the furniture apparatus 10 to the third configuration, the furniture apparatus 10 has been pivoted about projections 40c, 42c from the second orientation. In the third orientation, the extension sections 14b, 16b are in contact with the ground surface. As such, at least a part of the extension sections 14b, 16b may be, or be treated as, a ground contact portion. As a result of the extension sections 14b, 16b being in contact with the ground surface, the furniture apparatus 10 has been pivoted by an angle less than 90 degrees between the second orientation and the third orientation. As such, the adjoining structure 18 lies at an oblique angle relative to the ground surface, which may assist the user in using the user interactive surface of the furniture apparatus 10, as will be described below.

[0118] In the example shown, the furniture apparatus 10 comprises a display board 70, which is slidably engaged in a recess 72 which is located within the adjoining structure 18. The display board 70 may be a blackboard or a whiteboard, and may be magnetic. The display board 70 may alternatively or also comprise a flat-screen television, a touch-screen display, or the like. As previously described, in this example, the adjoining structure 18 is comprised of multiple flat components (not shown) laterally spaced apart to define a recess 72 therebetween. The retaining member 48 is located perpendicular to the flat components of the adjoining structure 18 and defines a boundary of the recess 72. The display board 70 comprises a handle 74 to enable the user to withdraw the display board 70 from the recess 72. In the example shown, the handle 74 is in the form of a through hole in the display board, although the skilled reader will appreciate that other types of handle may be incorporated into the design.

[0119] Although a separate display board 70 is illustrated in the example of Figure 4, it may also be the case that the flat surface 60 of the adjoining structure 18 itself functions as a display board in addition or alternative to the display board 70.

[0120] Figures 5 and 6 illustrate the furniture apparatus 10 in use in a first orientation as an armchair. In Figure 5, a smaller user 80 is shown, while in Figure 6, a larger user 90 is shown. The smaller user 80 may be a small child (e.g. a child of 2 to 3 years), while the larger user 90 may be a larger child (for example a child of 6 to 7 years). The skilled person will appreciate that this illustration is intended to show the size of the furniture apparatus 10 relative to a smaller user 80 and a larger user 90, and is not intended to imply any limits to the possible size of a user or of the furniture apparatus (e.g. the larger user 90 may also be an adult). As such, the overall dimensions of the furniture apparatus 10 may be altered to suit the needs of a smaller user 80 or larger user 90 (e.g. the furniture apparatus 10 may comprise smaller dimensions when intended for use by a smaller user 80, and larger dimensions when intended for use by a larger user 90).

[0121] Figures 7 and 8 illustrate the furniture apparatus 10 in use in a second orientation as a desk or table. Figure 7 illustrates use of the furniture apparatus 10 by a smaller user 80, while Figure 8 illustrates use of the furniture apparatus 10 by a larger user 90. In Figures 7 and 8, the

seat structure 12 has been detached from the furniture apparatus 10, so that the user may configure the seat structure 12 as a stool, so as to be able to sit at the desk. As can be seen clearly in Figures 7 and 8, extension sections 14b, 16b provide an overhang section, which facilitates use of the furniture apparatus as a table or desk when the user is in a seated position.

[0122] Figures 9 and 10 illustrate the furniture apparatus 10 in use in a third orientation showing the user interactive surface, in this case shown as a display board. Similar to previous Figures, Figure 9 illustrates the furniture apparatus being used by a smaller user 80, while Figure 10 illustrates the furniture apparatus being used by a larger user 90.

[0123] Figure 11 is a further illustration of the furniture apparatus 10 in the first orientation, showing the seat structure 12 separated from the furniture apparatus 10. Figure 11 shows further detail of the base support 28 of the seat structure 12. The base support 28 comprises four side members and a base member, arranged to form a hollow cuboid shape. The seat surface 30 forms a lid of the base support 28 which, in this example, is connected to the side members by a hinge connection (not shown) and is shown in an open position. As such, the seat surface 30 may be lifted to allow access to the centre of the hollow base support 28. As previously described, recess 38 facilitates access to the centre of the hollow base support 28 by permitting the user to easily pivot the seat surface 30 relative to the base support 28. Handle 36 allows the user to easily grip and move the seat structure 12, for example, to separate the seat structure 12 from the furniture apparatus 10.

[0124] Figure 12 illustrates the furniture apparatus 10 in the first orientation, with the seat structure 12 coupled thereto. Similar to Figure 11, the seat surface 30 of the seat structure 12 is connected to the base support 28 via a hinge joint (not shown).

[0125] Figures 13 and 14 are similar to Figures 11 and 12, in that they illustrate the furniture apparatus 10 in a first orientation and the seat structure 12 in an open position. In the example of Figure 13 and 14, the seat surface 30 is able to be completely detached from the base support 28. In this example, when in a closed configuration, the seat surface 30 may simply rest on the base support under gravity. Alternatively, the seat surface 30 and the base support 28 may comprise a magnet coupling mechanism to assist in securing the seat surface 30 on the base support 28. The skilled reader will also appreciate that other coupling mechanisms may be equally employed, for example a mechanical latch coupling mechanism.

[0126] Figures 15 to 19 illustrate various views of the furniture apparatus 10 in the first orientation with the seat structure 12 coupled thereto.

[0127] Figures 20 to 23 illustrate various views of the furniture apparatus 10 in the second orientation with the seat structure 12 decoupled therefrom and useable as a stool to sit adjacent the furniture apparatus 10.

[0128] Figures 24 to 27 illustrate various views of the furniture apparatus 10 in the third orientation, with the seat structure (not shown) decoupled therefrom. In particular, Figure 27 provides further illustration of the display board in use. The display board 70 is shown withdrawn from the recess in which it is positioned or stowed. The display board 70 is held in the withdrawn position by a retaining mechanism (not shown). The retaining mechanism may be, for example, a mechanical latch which is operable by hand. Shown in Figure 25, the furniture apparatus 10 comprises a U-shaped base panel 76 which is located perpendicular relative to, and connects to, the ground-engaging support members 14, 16, the adjoining structure 18, secondary support structures 44, 46 and rear support structure 54. The base panel 76 provides an opening 78 to recess 72 to enable access to the display board 70. Further, to facilitate access to the display board 70, the base panel comprises an indent section 82 to provide the user easier access to the handle 74 when the display board 70 is in a stored configuration.

[0129] Figures 28 and 29 illustrate a further example of a furniture apparatus 110. In the example shown, the furniture apparatus 110 is substantially similar to that shown in previous figures, and as such the reference numerals are the same as those used previously, incrementally increased by 100. In this example, the furniture apparatus 110 is shown in a first orientation. The furniture apparatus 110 comprises a handle 190, defined as a through hole in ground-engaging support member 114. Although not shown, the furniture apparatus 110 may comprise a handle similarly defined by ground engaging support member 116. The skilled reader will understand that, although handle 190 is illustrated in Figure 28 as a through hole, it may be in the form of a protruding handle, such as a knob, or a loop-style handle, and may be defined by the ground-engaging support member 114, 116 or it may be affixed to or located on the ground engaging support member 114, 116. Having a handle 190 defined by, or located on, the ground engaging support member 114, 116 may assist the user to configure the furniture apparatus 110 between configurations. For example, the handle 190 may assist the user to grip and pivot or lift the furniture apparatus 110 about an axis to configure the furniture apparatus 110 between orientations. The handle 190 is defined at a location towards a corner of the ground-engaging support member 114, 116, and as such may assist a user to rotate the furniture apparatus 110 naturally about its centre of gravity. Although not shown, the furniture apparatus 110 may comprise a plurality of handles, e.g. two handles, having different locations on ground-engaging support member 114, 116 to facilitate configuration of the furniture apparatus 110 between orientations.

[0130] Figure 30 is a further example of a furniture apparatus 210, illustrated in a second orientation. The furniture apparatus 210 is substantially similar to that shown in previous figures, and as such the reference numerals are the same as those used in Figures 1 to 27, incremen-

tally increased by 200. In this example, the adjoining structure 218 comprises a flat surface 260 having a rib 292 extending around the periphery thereof. The flat surface 260 has a rectangular shape, and in this example the rib 262 fully extends around the periphery of three sides of the flat surface 260, providing one side of the flat surface 260 without any of the rib 292 extending therealong, which may allow a user easy access to the flat surface 260 when used as a desk, for example. The skilled person will, however, appreciate that it is possible to have the rib 292 extending along more or less of the periphery of the flat surface 260, e.g. along two sides of the rectangular flat surface 260, or partially along one, some or all sides of the flat surface 260. Further, in the example shown, the rib 292 extends as a continuous rib, however in alternative examples the rib 292 may be discontinuous.

[0131] Figure 30 illustrates a rib 292 constructed from three components 292a-c, affixed to the flat surface 260. The components 292a-c may be affixed to the flat surface 260 by any appropriate means, for example by screwing, gluing or the like. Alternatively or additionally, the rib 292 may be formed of a single component affixed to the flat surface 260, or may be integrally formed with the flat surface 262. Further alternatively or additionally, the rib 292, or a part of the rib 292, may be formed by a part of ground-engaging support member 214, 216, extending relative to the flat surface 260, for example extending at right angles to the flat surface 260.

[0132] The rib 292 may prevent items from rolling, or being inadvertently knocked from the flat surface 60.

[0133] Figures 31a and 31b show an additional example of a furniture apparatus 310, illustrated in a first orientation, with a seat structure 312 shown rotated to permit further detail of the seat structure 312 to be seen. The furniture apparatus 310 is substantially similar to that shown in previous figures, and as such the reference numerals are the same as those used in Figures 1 to 27, increased by 300.

[0134] In this example, first ground engaging support member 314, second ground engaging support member 316 and adjoining structure 318 are formed together in a horseshoe shape, as in previous examples. Similarly, first and second ground engaging support members 314, 316 comprise secondary support structures 344, 346 respectively, while adjoining structure 318 comprises rear support structure 354. Compared to the example shown in Figures 1 to 27, the form of this example is slightly different. In particular, the padded back section 324a, 324b is formed as two parts, which may assist in the ease of manufacture of the padded back section 324a, 324b.

[0135] In this example, both the secondary support structures 344, 346 comprise part of a linkage 355a-b between the seat structure 312 and support structures 344, 346. The linkage 355a-b comprises a protrusion 355a in the form of a rib, which extends laterally in a front-to-back direction along an interior surface of the horseshoe shape formed by the adjoining structure 318 and support members 314, 316. The protrusion 355a matches with a slot 355b which is located on a side surface of the seat structure 312 towards the base. In this example, the seat structure 312 is able to couple together with secondary and rear support structures 344, 346, 354. The linkage 355a-b then permits the furniture apparatus 310 to be lifted and moved without the seat structure 312 decoupling from the furniture apparatus 310. Further, the linkage prevents rotation of the first and second ground engaging support members 314, 316 and adjoining structure relative to the seat structure 312 if, for example, a user were to apply a force to the adjoining structure 318 as a result of sitting in the furniture apparatus 310.

[0136] Figure 31b shows the furniture apparatus 310 of Figure 31a, but with a cutaway portion. As such, the engagement of the linkage 355a-b is able to be seen in more detail.

[0137] Figure 32 illustrates an example of the furniture apparatus in the first orientation. In this example, the furniture apparatus 310 comprises two seat structures 412a, 412b, and may be used by two persons. Many of the features of the example of Figure 32 are in common with those in Figure 1. As such, the reference numerals are the same, but incremented by 400. As with the previous example, the furniture apparatus 410 of Figure 32 comprises a first and a second ground-engaging support member 414, 416, and an adjoining structure 418. The dimensions of the first and second ground-engaging support members 414, 416 may be substantially similar to those of the embodiment of Figure 1. However, in this example the adjoining structure 418 may have a greater length to accommodate an additional seat structure 412a, 412b, compared to the embodiment of Figure 1.

[0138] In the example shown, the two seat structures 412a, 412b are substantially identical, and comprise base supports 428a, 428b and seat surfaces 430a, 430b as with the example of Figure 1. The ground-engaging support members 414, 416 and the adjoining structure 418 form a horseshoe shaped structure defining an opening to receive a user in a seated position. In this example, the opening is sufficiently dimensioned so as to receive both of the identical seat structures 412a, 412b. The padded back section comprises two contours 426a, 426b, each corresponding to a seat structure 412a, 412b, when coupled to the furniture apparatus 410.

[0139] Figures 33 and 34 illustrate an elevation and plan view of the furniture apparatus 410 with both seat structures 412a, 412b coupled thereto.

[0140] Figure 35 illustrates the furniture apparatus 410, previously shown in Figures 32 to 34, in the second orientation, useable as a desk or table top. In the example of Figure 35, the seat structures 412a, 412b are detached from the furniture apparatus 410 and are useable as stools.

[0141] Figures 36 and 37 provide views of the furniture apparatus with an alternative positioning of seat structures 412a, 412.

[0142] Although not illustrated, the examples shown in

Figures 32 to 37 may also have a third orientation, in which the furniture apparatus 410 may comprise a user interactive surface for use as described in the previous figures, as is possible with the furniture apparatus 10 of Figures 1 to 27.

Claims

1. A multipurpose furniture apparatus configurable between at least two orientations to provide different functions, comprising:

   first and second ground-engaging support members;
   an adjoining structure and a seat structure, the adjoining structure and the seat structure extending between and laterally separating both the first and second ground-engaging support members;
   wherein:

   in a first orientation the furniture apparatus is configurable as a chair, the first and second ground-engaging support members are configured as arms of the chair, the adjoining structure is configured as a back support, and the seat and adjoining structure are configured to support a user in a seated position; and
   in a second orientation, the adjoining structure is configured as a table top and the first and second ground-engaging support members are configured to support the table top.

2. The multipurpose furniture apparatus according to any preceding claim, wherein the multipurpose furniture apparatus is configured to pivot about a pivot axis to enable configuration between the at least first and second orientation.

3. The multipurpose furniture apparatus according to any preceding claim, wherein the first and second ground-engaging support members and the adjoining structure together form a horseshoe shaped structure.

4. The multipurpose furniture apparatus according to claim 3, wherein the seat structure is configured to be located in the centre of the horseshoe shaped structure.

5. The multipurpose furniture apparatus according to any preceding claim, wherein the seat structure is detachably coupled to the first and second ground-engaging support members, and has a detached and a coupled configuration.

6. The multipurpose furniture apparatus according to claim 5, wherein in the detached configuration, the seat structure is useable to support the weight of a user independently of the multipurpose furniture apparatus.

7. The multipurpose furniture apparatus according to any preceding claim, wherein the seat structure has an inclined surface.

8. The multipurpose furniture apparatus according to any preceding claim, wherein the seat structure has a generally cubic or cuboid form.

9. The multipurpose furniture apparatus according to any preceding claim, wherein the seat structure has the form of a truncated wedge.

10. The multipurpose furniture apparatus according to any preceding claim, comprising a plurality of seat structures.

11. The multipurpose furniture apparatus according to any preceding claim, configurable into a third orientation to provide a user interactive surface.

12. The multipurpose furniture apparatus according to claim 11, wherein the adjoining structure comprises a compartment and the user interactive surface is able to be stored within the compartment of the adjoining structure.

13. The multipurpose furniture apparatus according to claim 12, wherein the user interactive surface is able to be slidably stored and withdrawn from the compartment of the adjoining structure.

14. The multipurpose furniture apparatus according to any of claims 11 to 13, wherein the user interactive surface is a display board such as a blackboard or a whiteboard.

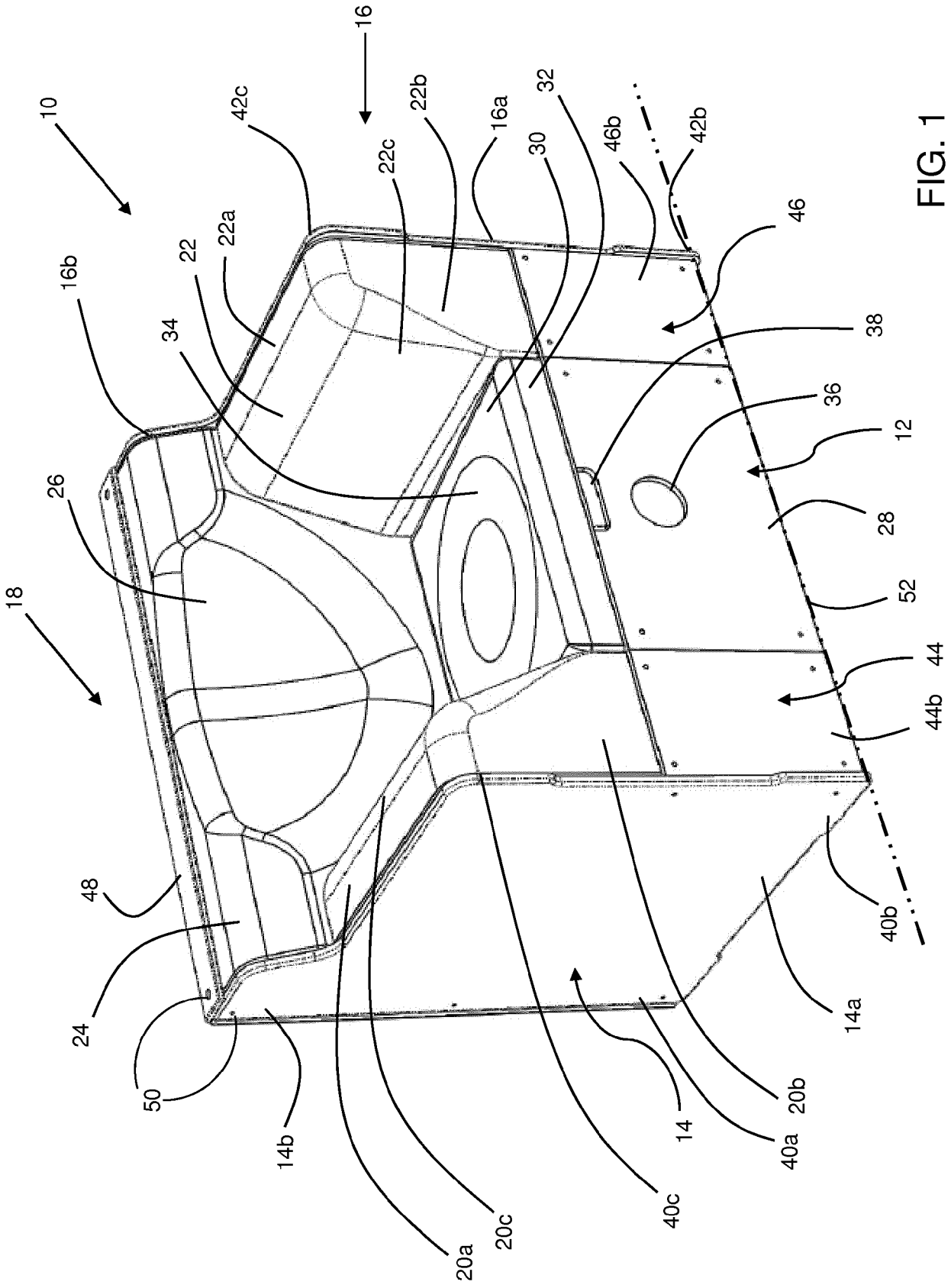
15. A method for using a multipurpose furniture apparatus, comprising:

   providing a multipurpose furniture apparatus configurable between at least a first orientation and a second orientation by a user, the multipurpose furniture apparatus comprising:

   first and second ground-engaging support members; and
   an adjoining structure and a seat structure, the adjoining structure and the seat structure extending between and laterally separating both the first and second ground-engaging support members;

configuring the multipurpose furniture apparatus in a first orientation for use as a chair, the first and second ground-engaging support members being configured as arms of the chair, the adjoining structure being configured as a back support, and the seat and adjoining structure being configure to support a user in a seated position;

configuring the multipurpose furniture apparatus in a second orientation, the adjoining structure being configured as a table top and the first and second ground-engaging support members being configured to support the table top.


10
16
42c
22b
16a
32
46b
42b
22c
30
22a
22
16b
34
46
38
36
12
26
28
18
52
44
44b
48
40b
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14a
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14b
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FIG. 1

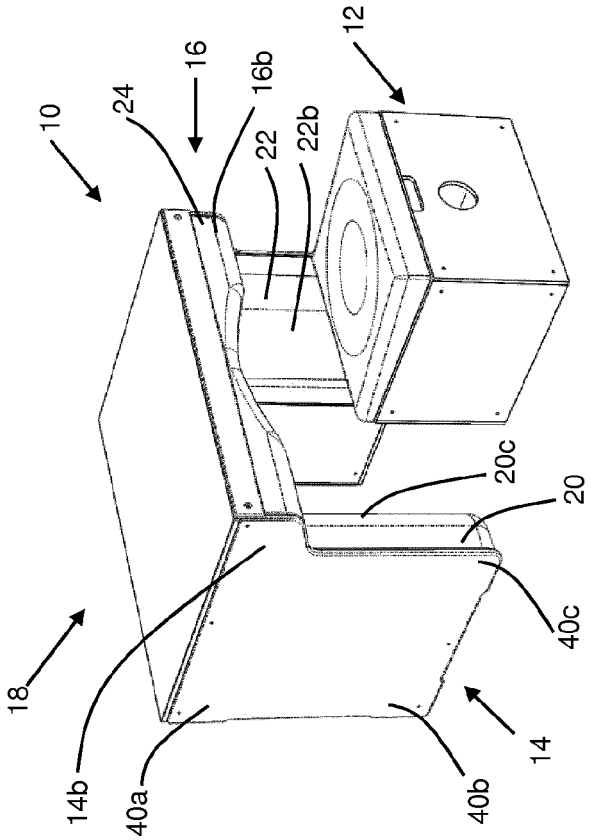


FIG. 3

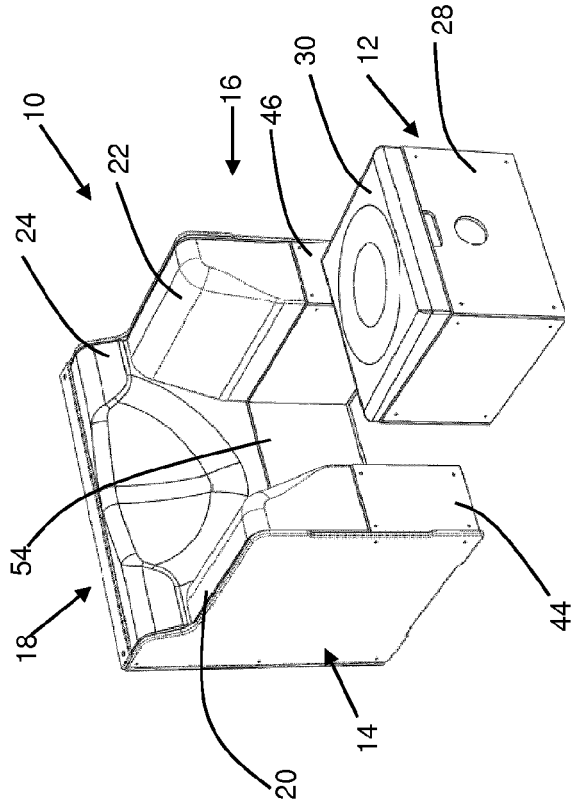


FIG. 2

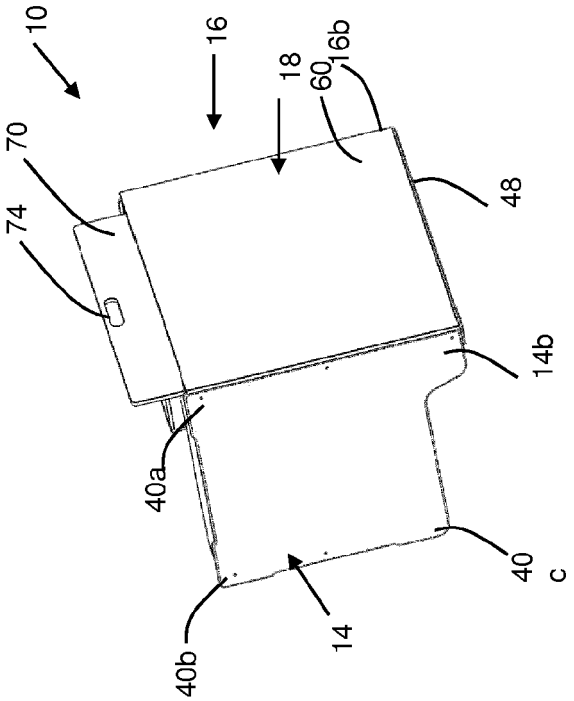


FIG. 4

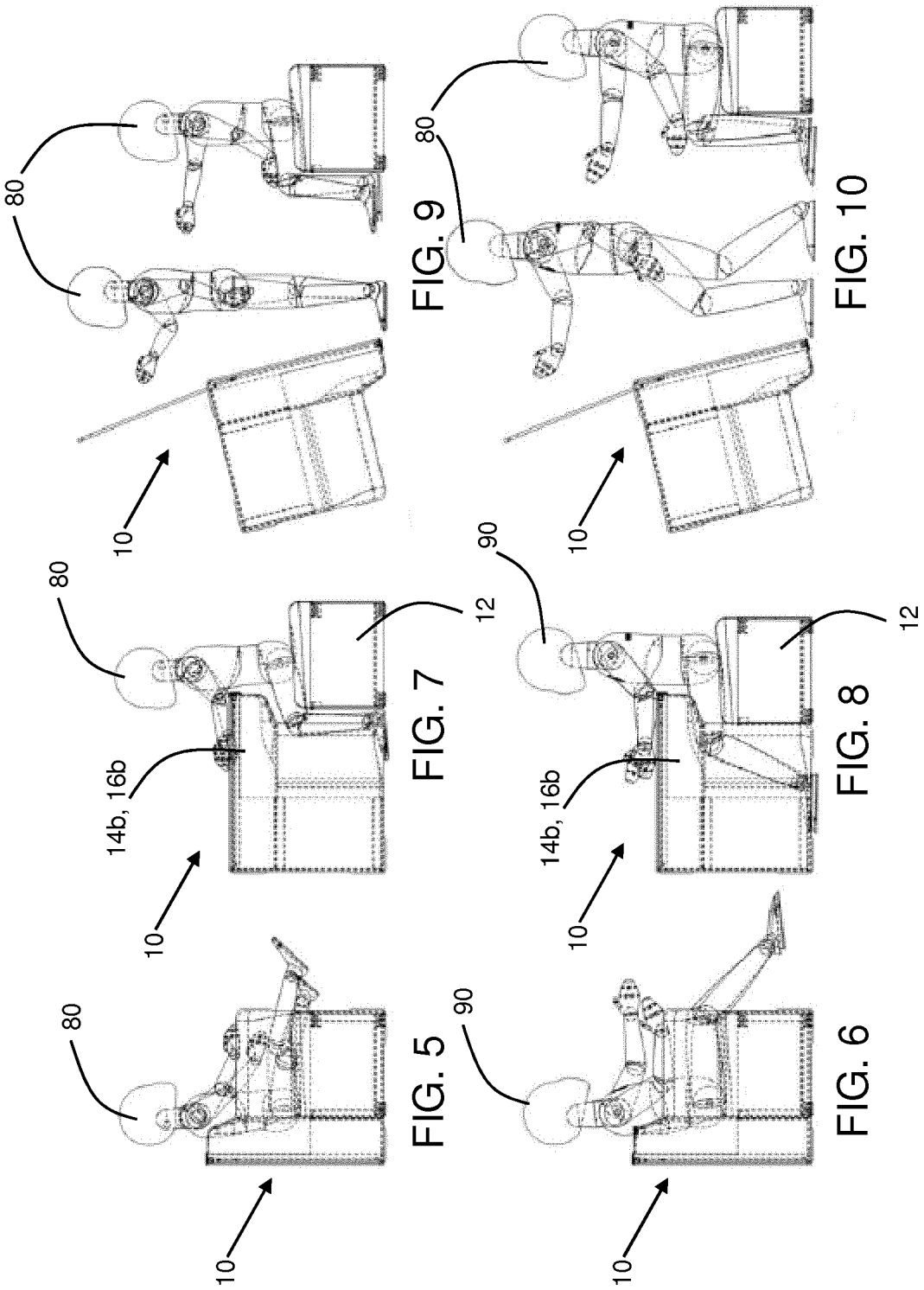


FIG. 5 FIG. 6 FIG. 7 FIG. 8 FIG. 9 FIG. 10

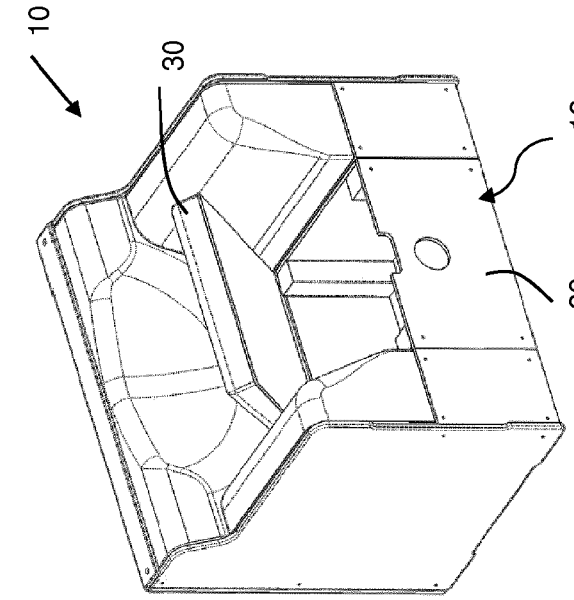


FIG. 12

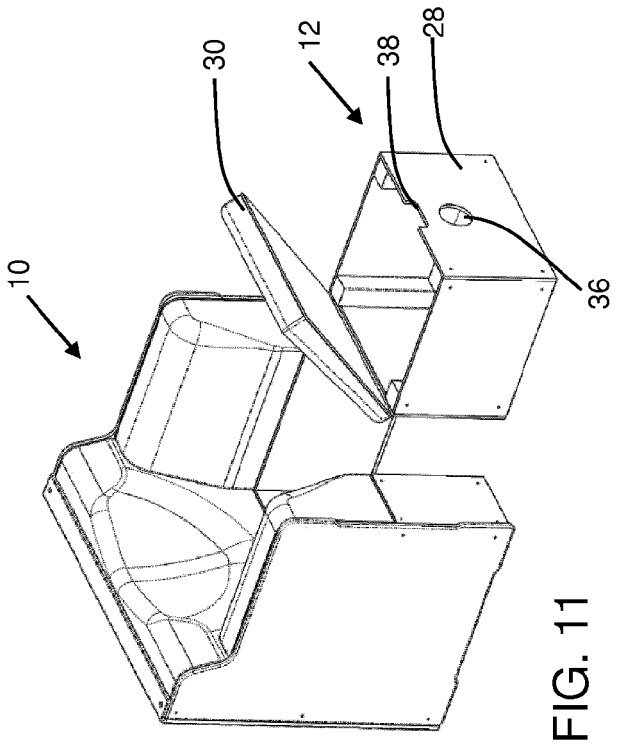


FIG. 11

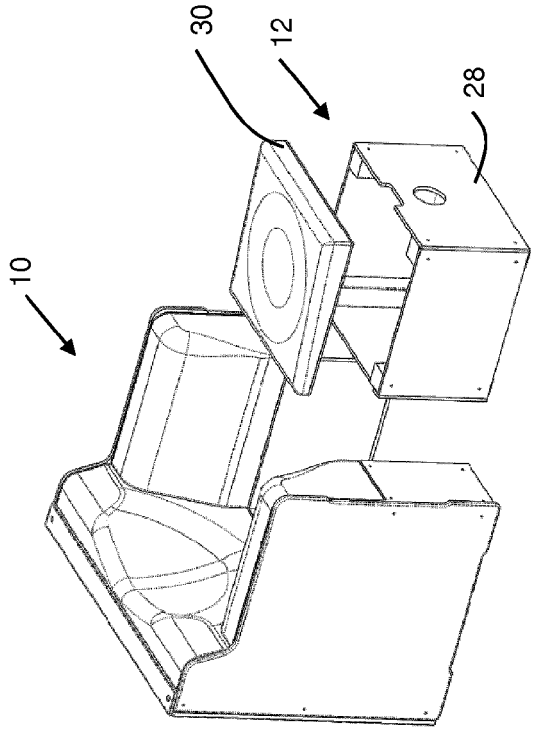


FIG. 13

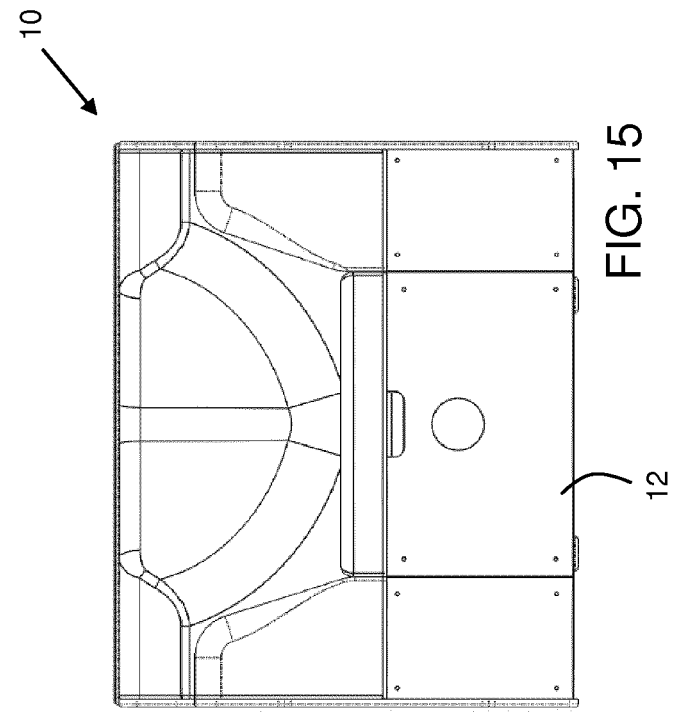


FIG. 15

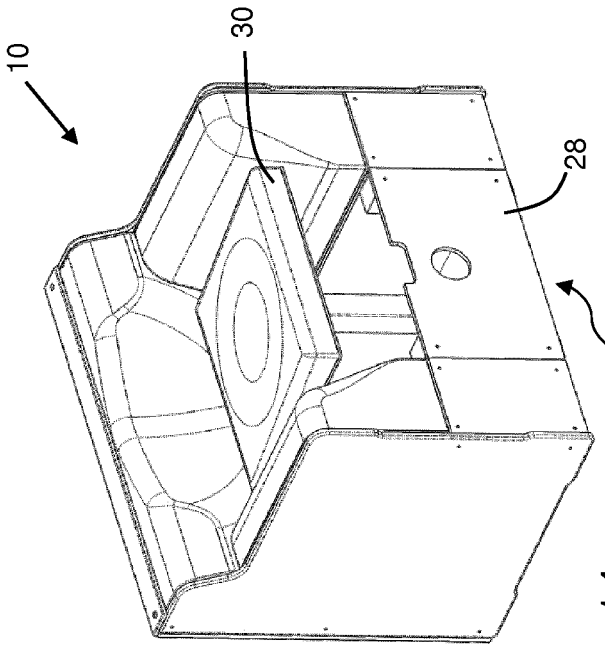


FIG. 14

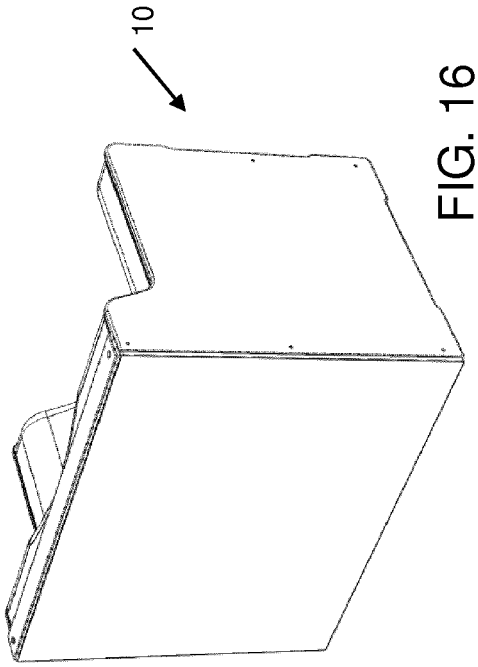


FIG. 16

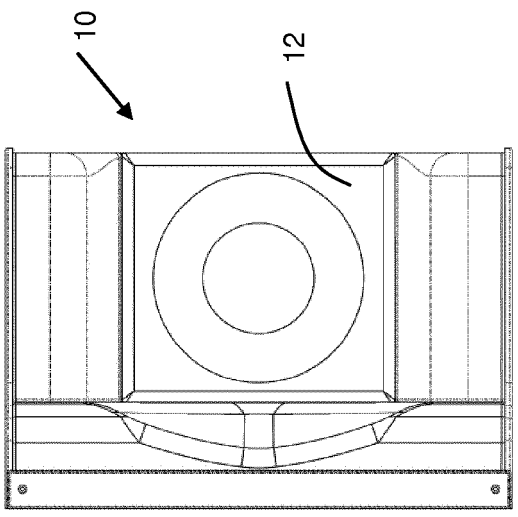


FIG. 17

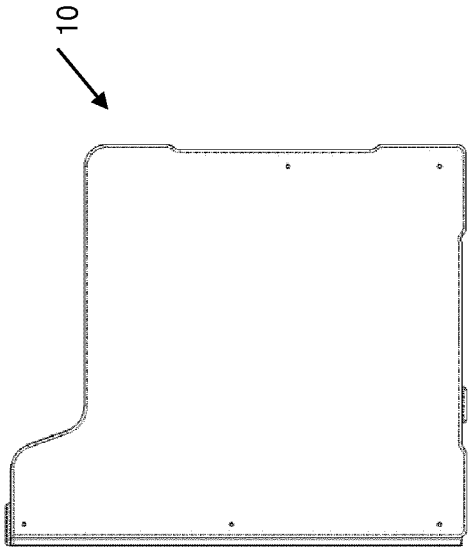


FIG. 18

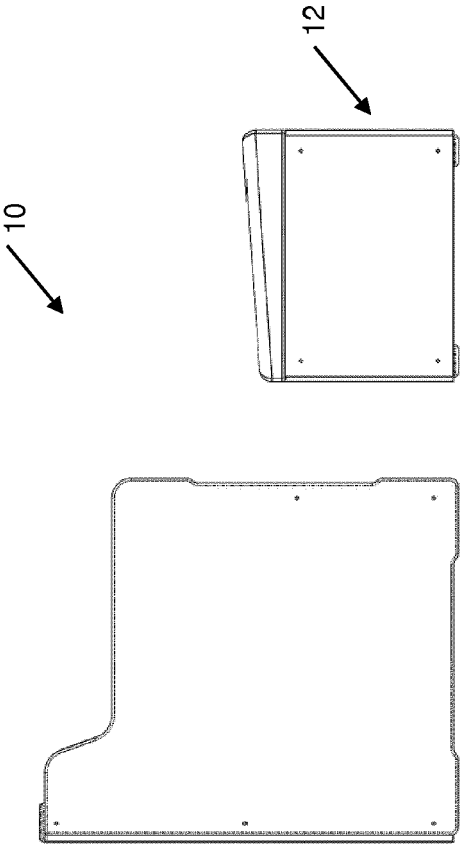


FIG. 19

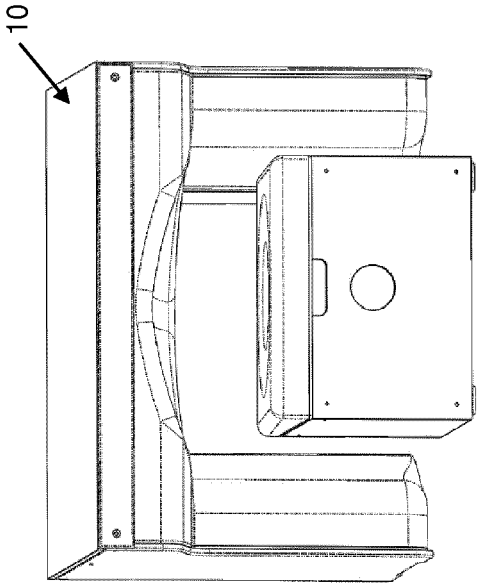


FIG. 21

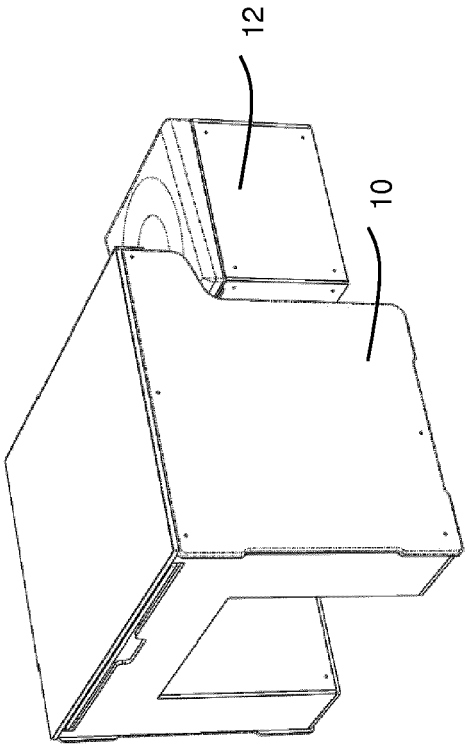


FIG. 20

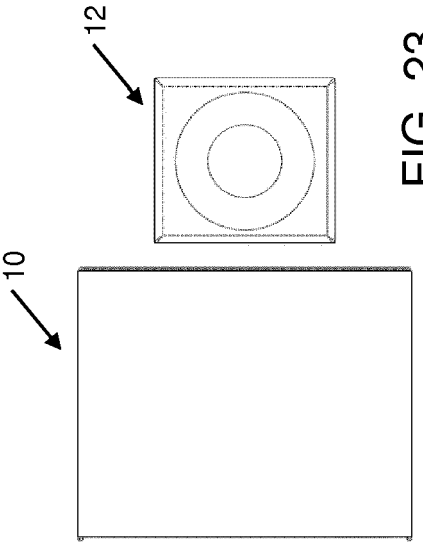


FIG. 23

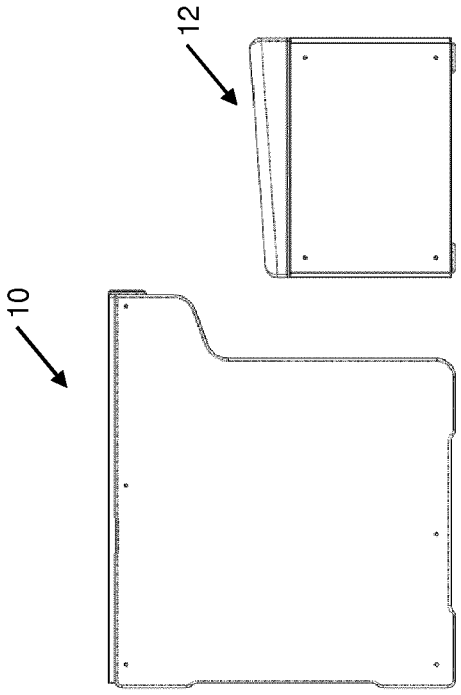


FIG. 22

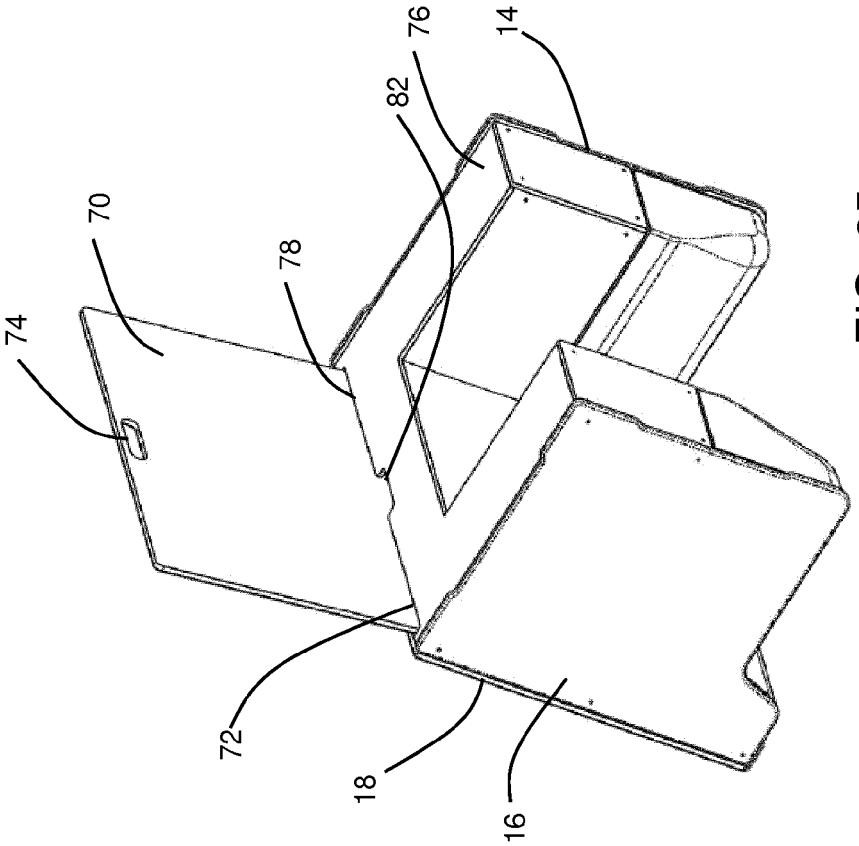


FIG. 25

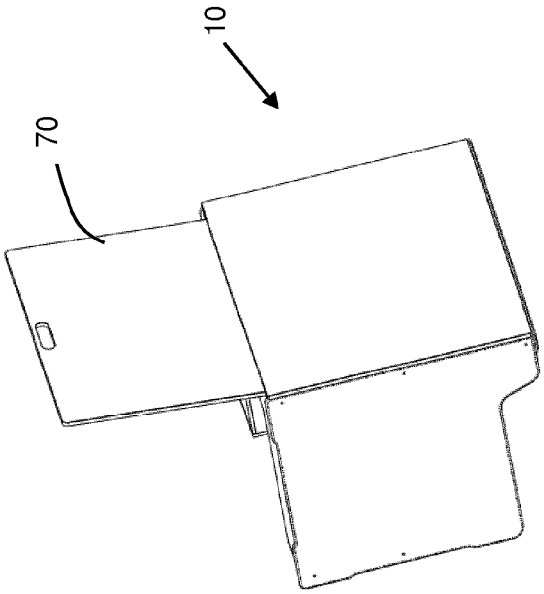


FIG. 24

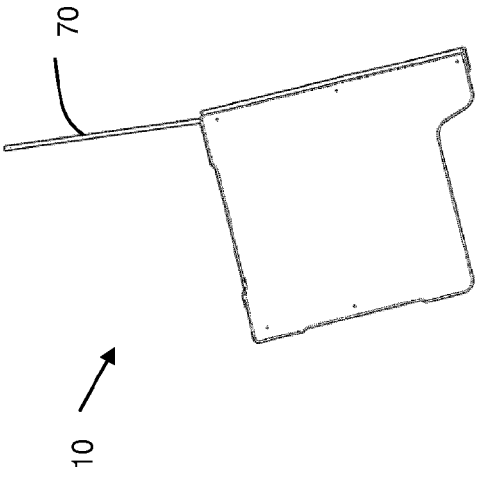
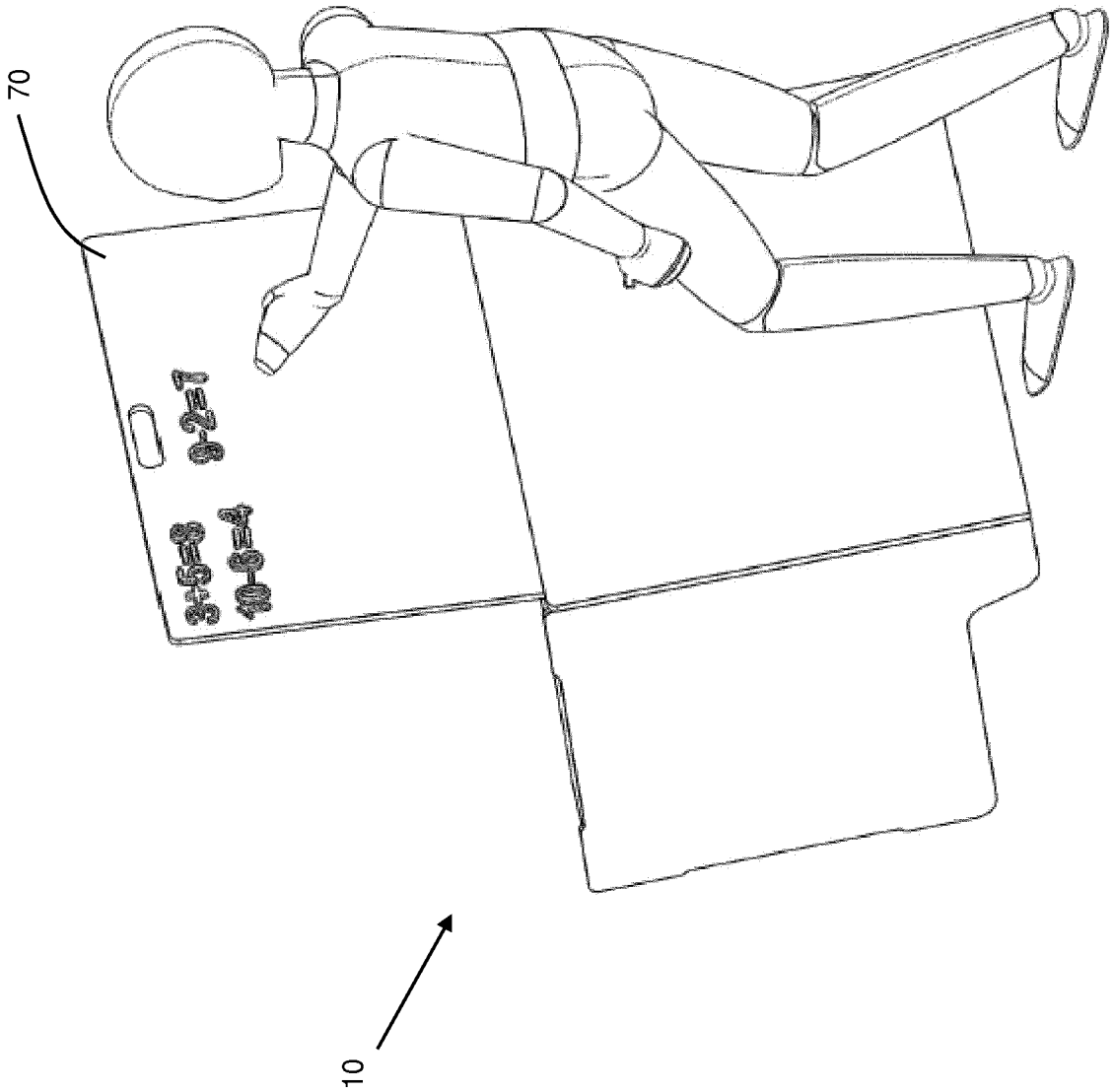


FIG. 26

FIG. 27



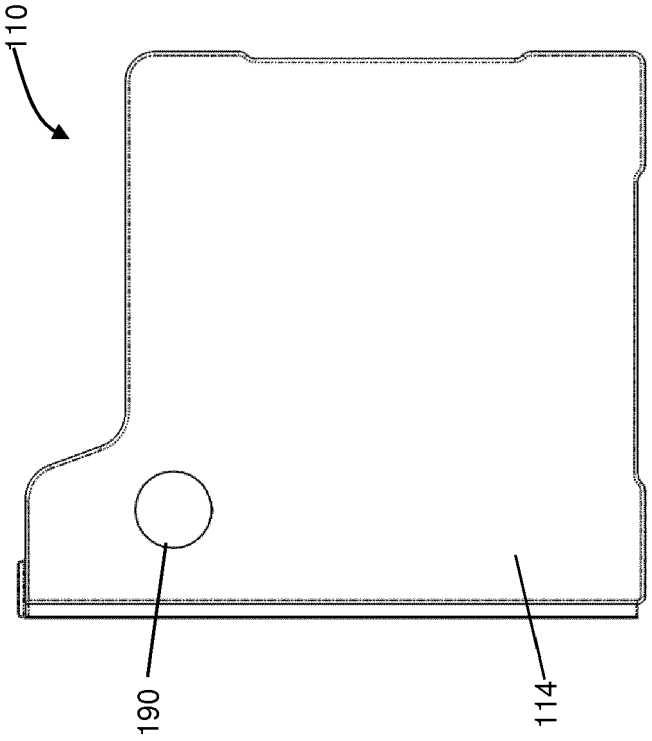


FIG. 29

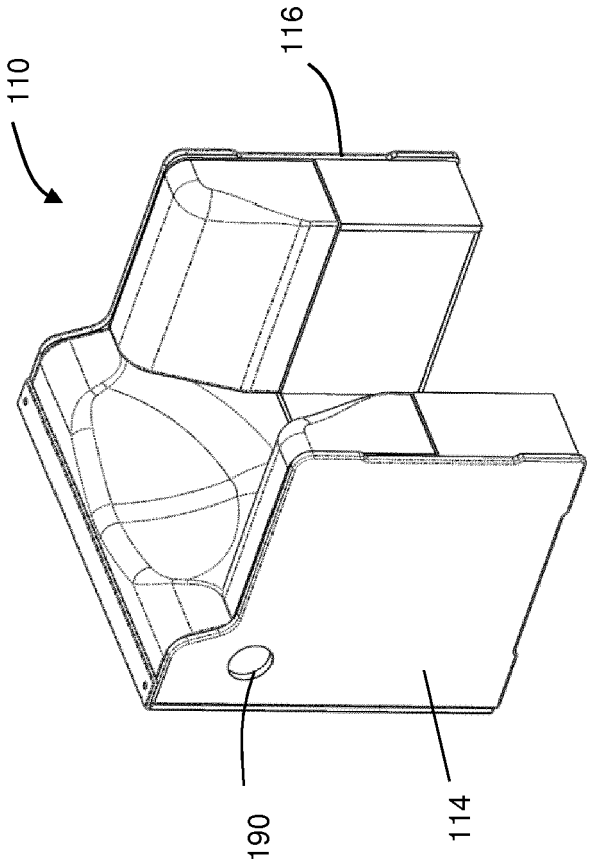


FIG. 28

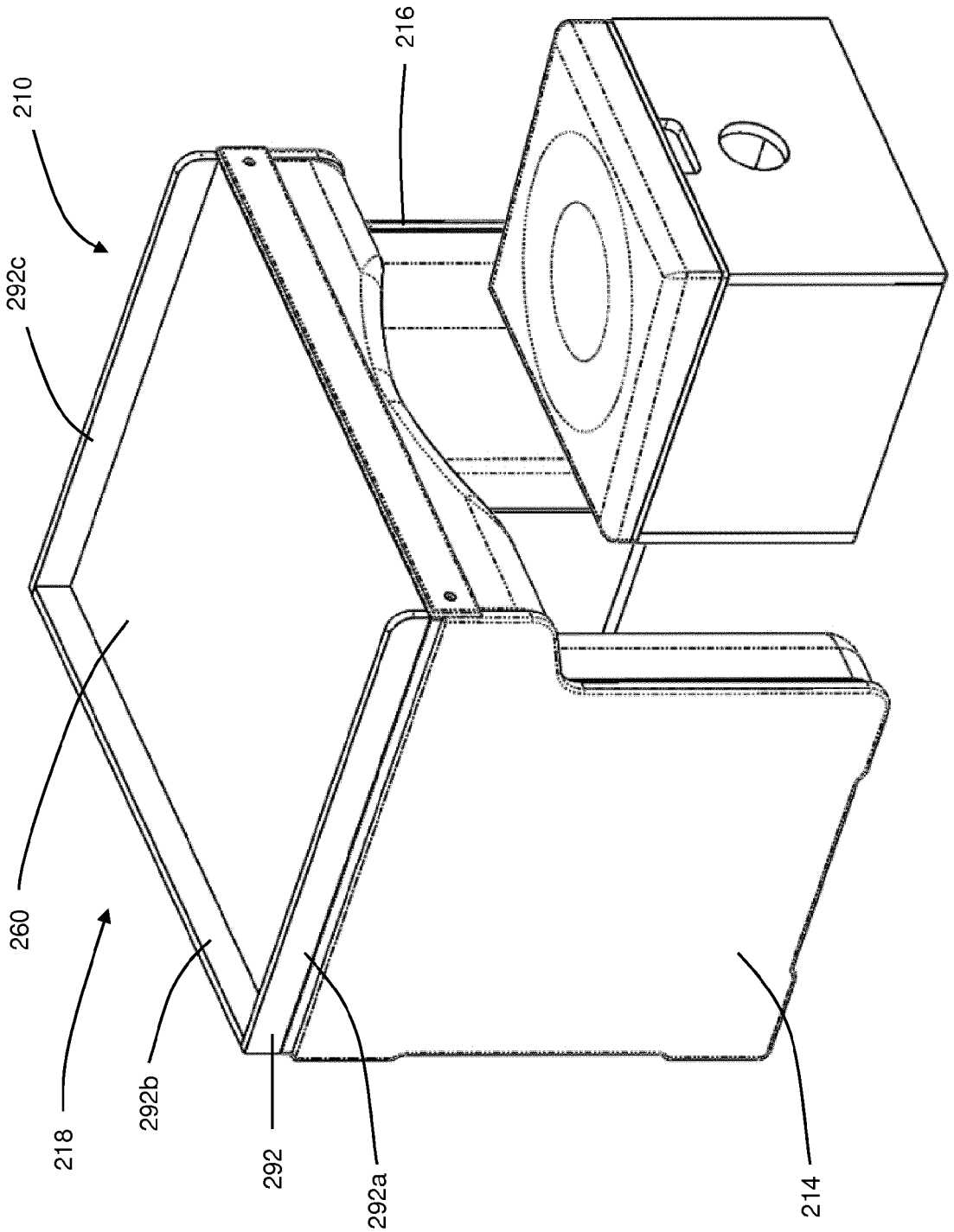


FIG. 30

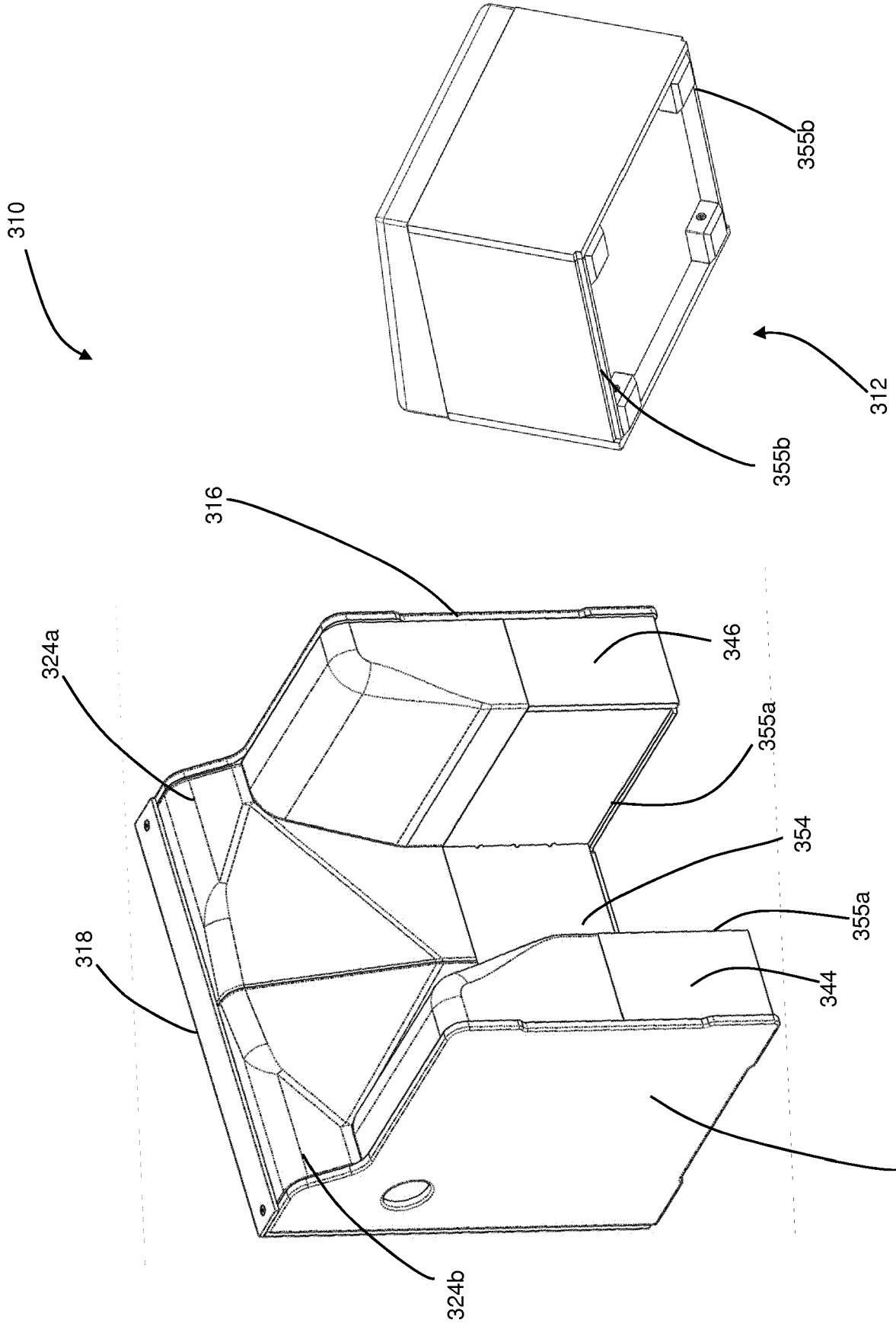


FIG. 31a

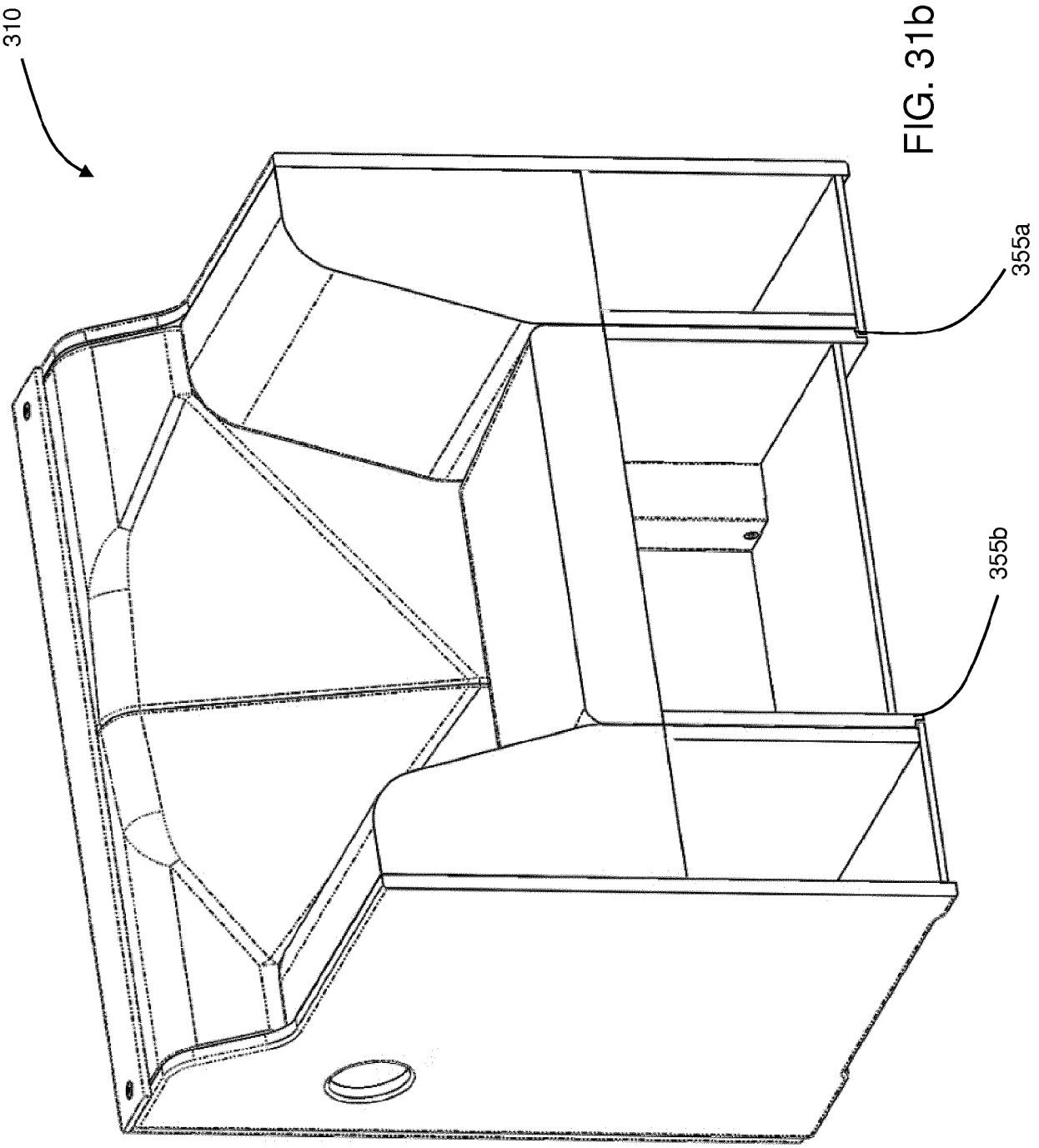


FIG. 31b

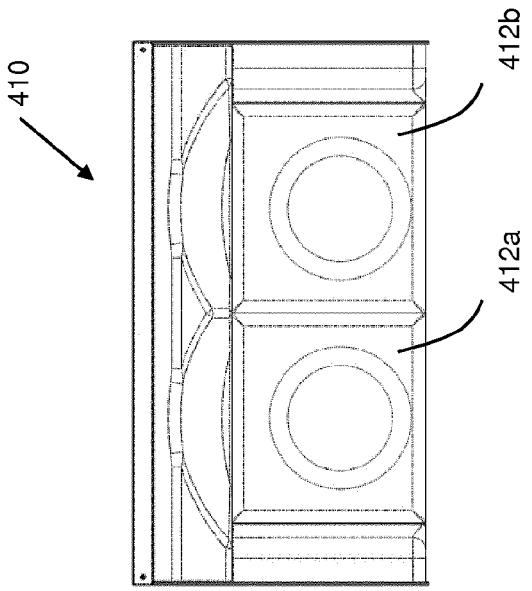


FIG. 33

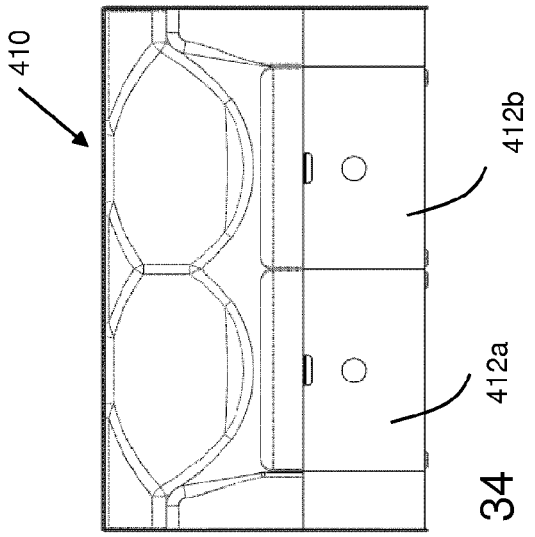


FIG. 34

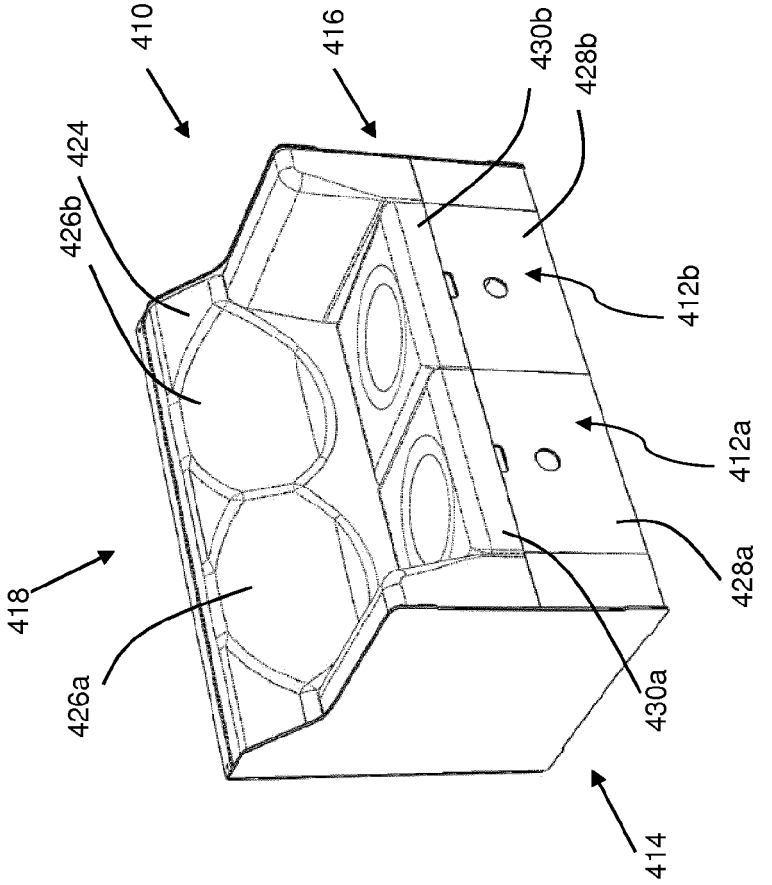


FIG. 32

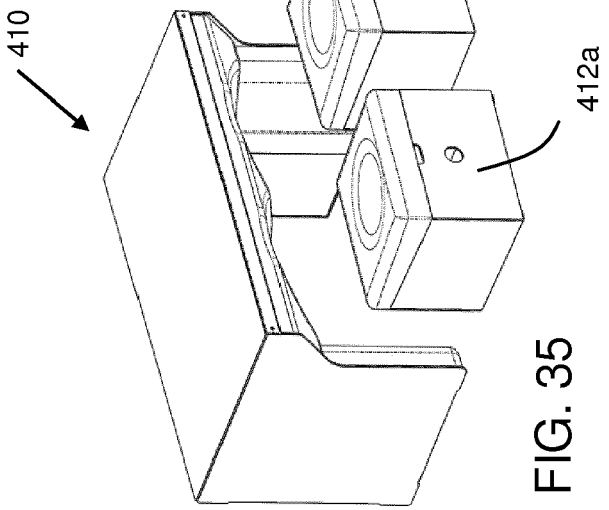


FIG. 35

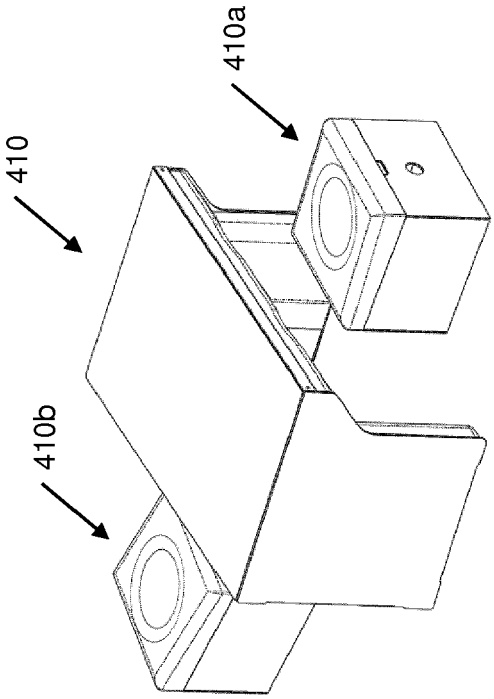


FIG. 36

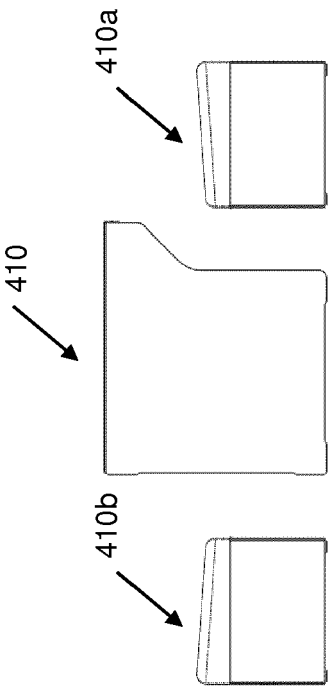


FIG. 37

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European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 19 17 3379

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 266 148 C (ROHRMANN) 28 September 1912 (1912-09-28)	1-9,11, 12,14,15	INV. A47C13/00
A	* page 1, column 1, line 26 - page 2, column 1, line 10; figures *	13	A47B85/04 A47D11/00 A47C7/62
X	FR 2 650 742 A1 (DURAN GILBERT [FR]) 15 February 1991 (1991-02-15)	1-8,10, 15	
A	* figures *	13	
X	JP 2006 174931 A (MIZUNO KAGU KK) 6 July 2006 (2006-07-06)	1-4,7-9, 11,15	
A	* figures *	13	
X	US 3 592 506 A (BRESLOW JEFFREY D) 13 July 1971 (1971-07-13) * figures 1-3,5-7 *	1-4,7,8, 11,14,15	

TECHNICAL FIELDS SEARCHED (IPC)

A47C
A47B
A47D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	28 June 2019	Kis, Pál

CATEGORY OF CITED DOCUMENTS

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28-06-2019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 3592506 A	13-07-1971	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82