

**A TABLE ASSEMBLY AND ACCESSORIES FOR USE WITH THE TABLE ASSEMBLY****CROSS-REFERENCE TO RELATED APPLICATION**

[0001] This application claims the benefit of priority to Singapore Patent Application No. 10202011185R filed on 10 November 2020, and Chinese Utility Model Application No. 202120792809.8 filed on 19 April 2021, the contents of it being hereby incorporated by reference in its entirety for all purposes.

**TECHNICAL FIELD**

[0002] The present disclosure relates to a table assembly. The present disclosure also relates to at least one magnetic accessory for use with the table assembly.

**BACKGROUND**

[0003] The following discussion of the background is intended to facilitate an understanding of the present disclosure only. It should be appreciated that the discussion is not an acknowledgement or admission that any of the material referred to was published, known or is part of the common general knowledge of the person skilled in the art in any jurisdiction as of the priority date of the disclosure.

[0004] Conventional tables or desks have the problem of objects or accessories falling over the edge of the table onto the floor. This can result in breakage or damage of items placed on such tables or desks. Fragile objects such as glass containers may shatter when they are knocked over accidentally, and may cause harm to the user of the table. Possible causes include slippery contact between the object and the table top, the table top being slanted (i.e. not horizontal), the user knocking into the object.

[0005] In recent times, accessories such as tablemats are used to prevent objects from excessive movement of objects along a table top and to prevent the objects from falling over the table edge. Tablemats can also dampen the noise made by the object on the table and provide an aesthetic feature to a computer table.

[0006] Examples of such tablemats include anti-slip mats that may prevent certain objects from falling to the floor but does not totally prevent the object from being knocked over. In addition, an anti-slip mat may hinder certain movements, such as a user's hand movement while typing on a keyboard, or mouse control while playing a fast-action game. Another example of such tablemats includes magnetic tablemats, which help to secure objects on the table force using magnetic force. However, it has been noted that such magnetic tablemats may shrink over time, such that they become smaller than the table top, and gaps exist between the tablemat and the table top. In other instances, the gaps may be caused by the difference in the sizes of the tablemat and the table top, for example, due to different

models/manufacturers, or manufacturing issues. Such gaps may cause accumulation of dust and damage the table top and the tablemat. In addition, the gaps are also not aesthetically appealing.

[0007] Such conventional tables or desks may also be transported or shipped, e.g. as a table assembly including individual components for assembly, or as assembled tables or desks. During shipping, metallic components in the tables or desk may be affected by the thermal changes and may expand and/or contract, and as such may damage the metallic components in the tables or desks. In some cases, the metallic component may no longer serve its intended purposes. In addition, the tables or desks formed from metallic components are often heavy and bulky, and transporting such tables or desks may be inconvenient to the transferor or user. Due to weight limitations, a user may also have to incur additional expenses to transport the table or desk.

[0008] Accordingly, there exists a need for an improved table assembly and/or improved accessories for use with the table assembly, that seeks to address at least one of the aforementioned issues.

### SUMMARY

[0009] The disclosure was conceptualized to provide a table assembly with relative ease of use and transportation. It is contemplated that the table assembly forms a magnetic ecosystem with at least one accessory to provide relatively strong magnetic adherence to accessories with a magnetic base. The magnetic ecosystem enables the provision of, for example, a tablemat assembly to provide a smooth surface to a user for optimal mouse control and to prevent objects from slipping off the table top or being knocked over. Further, the magnetic ecosystem enables the provision of a cable management system which allows a user to manage, hide and store cables and wires to keep the table top clean and free from clutter. In addition, the magnetic ecosystem also allows a user to hang various objects, including heavier objects, to the table top, to prevent cluttering of the table top surface. A clean and clutter free table top may be aesthetically appealing to the user. Embodiments of the disclosure further allows a user to work at a standing position which may alleviate the user's neck and shoulder pain and thus improves the health of the user.

[0010] The disclosure was also conceptualized to provide a table assembly that may be relatively light-weight without compromising the weight-bearing properties of the table. As such, the table assembly may be easily portable by the transferor or the user. The table assembly is further configured to accommodate for the expansion and contraction of the metallic components in the table due to the thermal changes during shipping, and thus minimizes damage to the table assembly.

[0011] According to an aspect of the disclosure, there is a table assembly comprising: a table top having an upper surface and a lower surface; the upper surface comprises a metallic material suitable for magnetic coupling with at least one magnetic accessory; the upper surface further arranged to be layered on the lower surface in a manner to produce at least two different magnetic coupling forces associated with different parts of the lower surface when the at least one magnetic accessory is attached thereto.

[0012] According to another aspect of the disclosure, there is a kit of parts for a table assembly, the kit comprising: a table top having an upper surface and a lower surface; a tablemat formed from or of a ferromagnetic material, the tablemat configured to be detachably mounted on the upper surface of the table top; and a clip member having a groove extending along a longitudinal direction of the clip member; wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the table mat are slidably movable relative to each other. The table top may be as described in other embodiments such as FIG. 1, FIGS. 2A, 2B, 2C, or FIG. 3.

[0013] According to another aspect of the disclosure, there is a method of manufacturing a table assembly comprising the step of (a.) providing a table top having an upper surface and a lower surface, wherein the upper surface comprises a metallic material suitable for magnetic coupling with at least one magnetic accessory; and wherein the upper surface is further arranged to be layered on the lower surface to produce at least two different magnetic coupling forces associated with different parts of the lower surface when the at least one magnetic accessory is attached thereto.

[0014] According to another aspect of the disclosure, there is a tablemat assembly for a table top, the assembly comprising: a tablemat configured to be detachably mounted on an upper surface of the table top; and a clip member having a groove extending along a longitudinal direction of the clip member; wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the table mat are slidably movable relative to each other.

[0015] According to another aspect of the disclosure, there is a method of manufacturing a tablemat assembly for a table top comprising the steps of: (a.) providing a tablemat configured to be detachably mounted on an upper surface of the table top; (b.) providing a clip member having a groove extending along a longitudinal direction of the clip member; wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the tablemat are slidably moveable relative to each other.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0016] The disclosure will be better understood with reference to the detailed description when considered in conjunction with the non-limiting examples and the accompanying drawings, in which:

- FIG. 1 shows a perspective view of an embodiment of a table assembly 100;
- FIGS. 2A and 2B show magnified cross-sectional views of various embodiments 200A, 200B of the lower surface 107 of the table top 102 when viewed from a direction perpendicular to the line A-A’;
- FIG. 2C shows a bottom or plan view 200C of the lower surface 107 of the table top 102;
- FIG. 3 shows a magnified perspective view of an embodiment 300 of the fold-back portion 106b of the table top 102 at a corner region/portion of the table top 102;
- FIG. 4A shows a perspective view of an embodiment of a table assembly 400A having a magnetic accessory, such as a tablemat assembly 410;
- FIG. 4B shows a perspective view of an embodiment of a table assembly 400B including the tablemat assembly 410 with the clip member 414 detached to the tablemat 412;
- FIG. 4C shows a perspective view of an embodiment of a table assembly 400C including the tablemat assembly 410 with the clip member 414 attached to the tablemat 412;
- FIG. 4D shows a perspective view of an embodiment of a table assembly 400D including the tablemat assembly 410 with the tablemat 412 and clip member 414 positioned on the upper surface 106 of the table top 102;
- FIG. 4E shows a perspective view of an embodiment of a table assembly 400E including the tablemat assembly 410 with the clip member 414 adjacent to an edge 424 of the table top 102;
- FIGS. 5A to 5D show perspective views of various exemplary magnetic accessories 500 to be used with the table assembly 100;
- FIG. 6A shows a close-up perspective view 600A of a hinge member 602 of the table assembly 100;
- FIG. 6B shows a close-up perspective view 600B of the hinge member 602 in connection with a cover member 108, and the insets (i.) and (ii.) show magnified views of the hinge member 602 and the hinge plate member 608;
- FIG. 6C shows a perspective top view 600C of the hinge member 602;
- FIGS. 6D and 6E show close-up perspective views 600D, 600E of the assembly of the hinge member 602 to the table top 102;
- FIG. 7A shows a perspective view 700A of an embodiment of a height adjustment mechanism 700 in a leg of the table assembly 100;

- FIG. 7B shows a close-up view 700B of an embodiment of a height adjustment mechanism 700 with the hollow section of the leg 702 removed;
- FIG. 8 shows an exploded perspective view of the various parts 800 for an embodiment of a table assembly 100;
- FIG. 9 shows a schematic illustration of a method 900 of manufacturing a table assembly; and
- FIG. 10 shows a schematic illustration of a method 1000 of manufacturing a tablemat assembly.

#### DETAILED DESCRIPTION

[0017] The following detailed description refers to the accompanying drawings that show, by way of illustration, specific details and embodiments in which the disclosure may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice the disclosure. Other embodiments may be utilized and structural, and logical changes may be made without departing from the scope of the disclosure. The various embodiments are not necessarily mutually exclusive, as some embodiments can be combined with one or more other embodiments to form new embodiments.

[0018] The disclosure illustratively described herein may suitably be practiced in the absence of any element or elements, limitation or limitations, not specifically disclosed herein. Thus, for example, the terms “comprising”, “including,” “containing”, etc. shall be read expansively and without limitation. The word "comprise" or variations such as "comprises" or "comprising" will accordingly be understood to imply the inclusion of a stated integer or groups of integers but not the exclusion of any other integer or group of integers. Additionally, the terms and expressions employed herein have been used as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding any equivalents of the features shown and described or portions thereof, but it is recognized that various modifications are possible within the scope of the disclosure. Thus, it should be understood that although the present disclosure has been specifically described in exemplary embodiments and optional features, modification and variation of the disclosure embodied herein may be resorted to by those skilled in the art.

[0019] Features that are described in the context of an embodiment may correspondingly be applicable to the same or similar features in the other embodiments. Features that are described in the context of an embodiment may correspondingly be applicable to the other embodiments, even if not explicitly described in these other embodiments. Furthermore, additions and/or combinations and/or alternatives as described for a feature in the context of an embodiment may correspondingly be applicable to the same or similar feature in the other embodiments.

[0020] In the context of various embodiments, the articles “a”, “an” and “the” as used with regard to a feature or element include a reference to one or more of the features or elements. As used herein, the term “and/or” includes any and all combinations of one or more of the associated listed items.

[0021] Throughout the description, the term “table assembly” refers broadly to various components of a table unit. In some embodiments, the table assembly may be assembled by a user.

[0022] Throughout the description, the term “magnetic coupling” refers broadly to an attractive magnetic force between two objects, and may have an associated magnetic strength. In some embodiments, the magnetic coupling may be between a magnetic accessory and the various components, such as the table top or the leg, of the table assembly.

[0023] Throughout the description, terms associated with orientation, such as “upper”, “lower”, “top”, “bottom” or the like refers to the device in an orientation under normal operation, for ease of clarity. It is appreciable by a skilled person in the art that when the device is stored or transported, the term “upper” may no longer be at an upper orientation relative to its adjacent component/layer. The above terms are therefore not to be construed as limiting terms defining specific orientation. For example, a table top having an upper surface and a lower surface may be construed broadly as an upper surface (first layer) layered on the lower surface (second layer), and the upper surface may in some embodiments partially or completely wrap the lower surface.

[0024] FIG. 1 shows a perspective view of an embodiment of a table assembly 100. The table assembly 100 includes the table top 102 and a plurality of legs 104a, 104b, 104c, 104d. The table top 102 includes an upper surface 106 and a lower surface 107. The upper surface 106 is arranged to be layered on the lower surface 107. In some embodiments, the table top 102 may be rectangular. It is contemplated that the table top 102 may include various shapes, such as but not limited to squares, or circles.

[0025] The upper surface 106 is made from a metallic material, such as but not limited to iron, aluminium, copper, brass, zinc, titanium, carbon steel, stainless steel, steel or a combination of such metals. The metallic material is suitable for magnetic coupling with at least one magnetic accessory. In some embodiments, the upper surface 106 may include a layer made of steel having a thickness in a range of 0.5 mm to 2.0 mm. In some embodiments, the thickness may be at least 0.6 mm. The upper surface 106 may further having a layer of powder coated thereon.

[0026] In use, at least one accessory e.g. a magnetic tablemat (described in further details below) may be magnetically coupled to the metallic material, e.g. steel on the upper surface 106, to retain the position of the magnetic accessory when placed on the table top 102.

[0027] The lower surface 107 may include a medium-density fibreboard (MDF). In some embodiments, the MDF may have a density of 700-800 kg/m<sup>3</sup>, more preferably a density of 750-800 kg/m<sup>3</sup>. It is contemplated that the lower surface 107 may include high-density fiberboard (HDF) with a density of 800-900 kg/m<sup>3</sup>. The MDF maybe wrapped / coated with a powder coated steel. The powder coating the steel may be formed from or of an electrical non-conductive (or electrical insulating) material such as, but not limited to at least one of the following: polyurethanes, epoxies, ceramic coatings, and/or polymers. In some embodiments, the powder coating may have a thickness of 50-100 µm, and in some embodiments, a thickness of 80 µm.

[0028] FIGS. 2A and 2B show magnified cross-sectional views of various embodiments 200A, 200B of the lower surface 107 of the table top 102 when viewed from a direction perpendicular to the line A-A' or viewed from a direction parallel to the plane defined by the table top 102. FIG. 2C shows a bottom or plan view 200C of the lower surface 107 of the table top 120. Referring to FIG. 2A, the lower surface 107 of the table top 102 may be formed from a composite comprising MDF and at least one panel having a honeycomb structure 202. The at least one panel with a honeycomb structure 202 may be wood-based panel. In other words, the lower surface 107 may be formed from a composite comprising a blend or a mix of MDF and the at least one panel having a honeycomb structure 202 (as shown in FIG. 2A). In some embodiments, the composite may further include other wood-based materials without a honeycomb structure 202. Referring to FIG. 2B, the composite may comprise the at least one panel having a honeycomb structure 202 arranged as a core or central panel, with the MDF layered on top of the at least one panel. In some embodiments, the MDF layer may further include other wood-based materials without a honeycomb structure 202. Referring to FIG. 2C, the various panels with a honeycomb structure 202 may be arranged in a matrix arrangement, where the MDF layers are arranged between the various panels with a honeycomb structure 202. It is contemplated that other layered arrangements having the at least one panel having a honeycomb structure 202 arranged as a core or central panel may be suitable. Suitable panels for use as the core/central panel includes non-warp honeycomb structured panels for manufacturing fire-rated wooden doors. In some embodiments, parts of the lower surface 107 may have holes 204 shaped and dimensioned to receive one or more types of fasteners, such as screws, e.g. for connection to other components of the table assembly 100. The holes 204 may be formed on wood-based materials without a honeycomb structure 202, so as to provide a stable support to receive a fastener. It is envisaged that other fasteners such as, but not limited to, bolts, nails, rivets, may be used.

[0029] The table top 102 comprising a core layer of honeycomb structure 202, one or more layers of MDF and an upper surface 106 of metallic material (e.g. steel) having magnetic properties and power

coated with an electrical insulating material achieves a relatively light-weight table top 102 without comprising (or with minimal adverse effect) on the weight-bearing properties of the table top 102. Further, the panel having a honeycomb structure 202 may be fire-resistant and may thus prevent a user from fire injuries in the event of a failure or malfunction within the components of the electrical outlet. In addition, the electrical insulation afforded by the powder coat provides for a reduced risk of electrical shocks to a user.

[0030] It is contemplated that the other fibreboards such as a HDF, in conjunction with the core layer of the honeycomb structure panel may be used to improve the weight-bearing properties of the table top 102. It is further contemplated that the core layer of honeycomb structure in the lower surface 107 of the table top 102 may include one or more light-weight metallic particles such as but not limited to aluminium, or that the lower surface 107 may be formed from or of a composite of honeycomb structure with wood fibers and metallic particles such as aluminium.

[0031] FIG. 3 shows a magnified perspective view of an embodiment 300 of the fold-back portion 106b of the table top 102 at a corner region/portion of the table top 102. In some embodiments, the upper surface 106 of the table top 102 comprises a first layer 106a of powdered steel laminate (powdered coated or otherwise) attached onto a first surface 107a of the MDF and/or the at least one panel having a honeycomb structure 202. The upper surface 106 may partially wrap around the lower surface 107, e.g. MDF and/or the at least one panel having a honeycomb structure 202, and terminate at a second surface 107b of the lower surface 107, e.g. MDF and/or the at least one panel having a honeycomb structure 202. The portion of upper surface 106 that is attached onto the second surface 107b of the lower surface 107 may comprise a fold-back portion 106b (see dashed box in FIG. 3) in a manner such that the thickness of the fold-back portion 106b is at least double that of the first layer 106a. As a result, the fold-back portion 106b is able to provide a larger effective area for magnetic attraction relative to the first layer 106a when one or more magnetic accessories are attached thereto. The fold-back portion 106b may also provide a stronger magnetic attraction to the magnetic accessory, and may thus allow the magnetic accessory to hold heavier items without falling off the table top 102. The fold-back portion may also extend around the edge portion of the table top 102 (see 106c and dashed box in FIG. 3).

[0032] It is appreciable that FIG. 3 shows an embodiment wherein a first layer (upper surface 106) is arranged to be layered on a second layer (lower surface 107) to produce at least two different magnetic coupling forces associated with different parts of the table top 102 when at least one magnetic accessory is attached thereto. In normal operation, this translates into at least one portion/part of the table top 102 (e.g. an edge portion or a bottom portion) having stronger magnetic coupling force (when the at least one magnetic accessory is attached thereto) compared to the rest of the table top 102. Advantageously,

such an arrangement provides for at least a first area/region of the table top 102 (e.g. an edge or bottom of the table top 102) associated with a stronger magnetic coupling force suitable for magnetic accessories to hang therefrom, and at least a second area/region of the table top 102 (e.g. on the top surface of the table top 102) associated with a weaker magnetic coupling force suitable for magnetic accessories to rest thereon without undue difficulty associated with intentional movements of the accessories.

[0033] As shown in FIG. 3, the fold-back portion 106b may also have an outer layer inclined toward the second surface 107b in a manner so as to urge the fold-back portion 106b against the second surface 107b. The fold-back portion 106b may accommodate for the unwanted expansion and contraction of the metallic material in the upper surface 106 due to thermal changes during transport of the table assembly 100. For example, during shipping or while in storage, the table assembly 100 may be stored at high temperatures, e.g. 70–80 °C, and as a result, the upper surface 106 comprising the metallic material may expand and lift-off, i.e. delaminate from, the lower surface 107, and may damage the table top 102. In another example, the table assembly 100 may be transported, used or stored at low temperatures, e.g. < 10 °C, and the upper surface 106 comprising the metallic material may contract and lift-off the lower surface 107 and may damage the table top 102. The fold-back portion 106b, may therefore accommodate for the expansion and contraction of the upper surface 106, and may thus minimize or prevent the upper surface 106 from delaminating from the lower surface 107.

[0034] In some embodiments, the upper surface 106 may include one or more pieces of ferromagnetic material, e.g. magnets. The one or more pieces of magnets may be attached to the upper surface 106 to provide a stronger magnetic attraction when one or more magnetic accessories are attached thereto.

[0035] FIG. 4A shows a perspective view of an embodiment of a table assembly 400A having a magnetic accessory, such as a tablemat assembly 410. The tablemat assembly 410 may be magnetic and can be of variable size and shape, such that it can cover at least an area of the upper surface 106 of the table top 102. In some embodiments, the tablemat assembly 410 can cover the entire area of the upper surface 106 of the table top 102.

[0036] FIG. 4B shows a perspective view of an embodiment of a table assembly 400B including the tablemat assembly 410 with the clip member 414 detached to the tablemat 412. The tablemat assembly 410 may include a tablemat 412 (also referred generally as a plate member) and a clip member 414. The tablemat 412 may include an edge 416 that may be configured to be detachably mounted on an upper surface 106 of a table top 102. The tablemat 412 may be non-rigid and may be made from ferromagnetic materials such as but not limited to iron, nickel, cobalt and or their alloys. In some embodiments, the tablemat 412 includes a first layer (e.g. a lower layer) made of a mixture of rubber

and the ferromagnetic components, and a second layer (e.g. an upper layer) made of a polyurethane material such as polyurethane leather. It is contemplated that other materials may be selected. As such, the tablemat 412 adheres to the upper surface 106 of the table top 102 to prevent the table mat 412 from slipping off the table top 102.

[0037] The clip member 414 may be made from a metallic material such as but not limited to iron, aluminium, copper, brass, zinc, titanium, carbon steel, stainless steel, steel or a combination of such metals. The tablemat 412 may be magnetically attached to the table top 102 and the clip member 414. In other words, the clip member 414 is magnetizable and is attached to the tablemat 412 by magnetic force.

[0038] The tablemat 412 may be magnetic as described above and in some embodiments, may have an initial size matching the size of the table top 102. The tablemat 412 may adhere, e.g. via magnetic adherence to the upper surface 106 of the table top 102 to prevent the tablemat 412 from slipping off the table top 102. The tablemat 412 may provide a smooth and seamless experience for the user which can be important if the user is a gamer who requires optimal mouse control. The tablemat 412 may also be flexible such that it can be rolled up for portability. When unpacked to be attached to the upper surface 106, the tablemat 412 may be rolled out with ease to be completely flat without the need or hassle of straightening.

[0039] The clip member 414 may include a groove 415 extending along a longitudinal direction of the clip member 414. For example, a pair of longitudinally extending walls 417, 419 of the clip member 414 may define the groove 415 therebetween. The groove 415 may be configured to receive the edge 416 of the tablemat 412. The clip member 414 may be configured to be mounted on the upper surface 106 of the table top 102 adjacent to an edge (as shown in FIGS. 4D and 4E) of the table top 102. The clip member 414 and the tablemat 412 may also be slidably movable relative to each other. A width of the groove 415 may be dimensioned to fit a thickness of the tablemat 412 to allow sliding movement relative to each other.

[0040] FIG. 4C shows a perspective view of an embodiment of a table assembly 400C including the tablemat assembly 410 with the clip member 414 attached to the tablemat 412. The edge 416 of the tablemat 102 may be slidably received by the groove 415 of the clip member 414. The edge 416 of the tablemat 102 may be received by the groove 415 such that it abuts a bottom of the groove 415 when fully inserted.

[0041] FIG. 4D shows a perspective view of an embodiment of a table assembly 400D including the tablemat assembly 410 with the tablemat 412 and clip member 414 positioned on the upper surface 106 of the table top 102. As shown in FIG. 4D, the tablemat 412 and the clip member

414 are horizontal and mounted on the upper surface 106 of the table top 102. The tablemat 412 may also be smaller than and does not match the size of the table top 102, forming a gap 422 between the clip member 414 and an edge 424 of the table top 102. As the clip member 414 and the tablemat 412 are slidably movable relative to each other along a transverse direction of the clip member 414, the clip member 414 may slide relative to the tablemat 412 to abut the edge 424 of the table top 102 while occluding the edge 416 of the tablemat 412 by one of the pair of the longitudinal extending walls 417, 419.

[0042] FIG. 4E shows a perspective view of an embodiment of a table assembly 400E including the tablemat assembly 410 with the clip member 414 adjacent to an edge 424 of the table top 102. The clip member 414 may be in a position abutting the edge 424 of the table top 102. This may be possible when the tablemat 412 is smaller than the table top 102 and the clip member 414 slides to abut the edge 424 as described in FIG. 4C above. In some embodiments, the tablemat 412 may initially be of the same size as the table top 102 and the clip member 414 does not slide but fits snugly to the table top edge 424. When the tablemat 412 shrinks over time, the clip member 414 may remain in the same position, i.e. abutting the table top edge 424, while having the tablemat edge 416 occluded by one of the pair of longitudinal extending walls 417, 419. In other words, the tablemat 412 now slides relative to the clip member 414 when it shrinks.

[0043] The tablemat assembly 410 may prevent excessive movement of accessories along the table top 102 and may prevent objects from falling over the table edge. The tablemat assembly 410 may also dampen the noise made by the object on the table and provide an aesthetic feature to the table assembly 100, e.g. a computer table. Furthermore, if the tablemat 412 and table top 102 are of different sizes, the tablemat assembly 410 may eliminate the gaps between the tablemat 412 and the table top 102. This may prevent the accumulation of dust, prevent further damage to the table top 102 and the tablemat 412, and yet can be aesthetically appealing.

[0044] Different types of magnetic accessories may also be used with the table assembly 100. Such magnetic accessories may attach themselves to the table top 102 via magnetic means or the like. The magnetic accessories for use with the table assembly 100 may have a magnetism strength in a range of 50-100,000,000 Gauss (Gs), preferably in the range of 50-300,000 Gauss and more preferably in the range of 50-200,000 Gauss. These magnetic accessories may have magnetism strength in relation to their size or shape and may vary accordingly to these properties. The magnetism strength should be strong enough to enable stability such that they are able to hold their position on the table top 102 even when accidentally knocked over, unless the magnetic accessory is intentionally or mechanically displaced from its position. The magnetic accessories can hold and maintain their positions even when the table assembly 100 is used as a drawing table or the table top 102 is inclined at an angle to the

horizontal plane. Examples of such magnetic accessories include, but are not limited to, cable covers, USB/Audio Hubs, cable snap clips, cable reels, wireless chargers, wrist cushions, mouse pads, headphone holders, microphones, head phones, speakers, mouse, mouse bungees, holders for any accessories or electronic device, keyboard, shelves, partition, mats, desk risers, monitor stands, toys, display units and any device for use on a table or desk. In some embodiments, each magnetic accessory may have a ferromagnetic portion having a thickness in the range of 0.5 mm to 2.0 mm, preferably at least 0.6 mm. In some embodiments, the ferromagnetic portion may include steel compounds.

[0045] FIGS. 5A to 5D show perspective views of various exemplary magnetic accessories 500 to be used with the table assembly 100. In FIGS. 5A to 5D, the magnetic accessory may be a cable holder configured to hold at least one cable. Referring to FIG. 5A, an example of a magnetic accessory includes a magnetic cable clip 502 that may be positioned at the edge of the table top 102 for holding cables. The magnetic cable clip 502 may include a through hole to firmly hold a cable 504 when it is attached to the table top 102. The size of the through hole is selected to be larger than the diameter of the cable 504 but smaller than the connector head (e.g. a USB or HDMI connector head) such that the cable 504 is prevented from slipping onto the floor. The magnetic cable clip 502 may come in different sizes, in which two sizes are shown in the FIG. 5A.

[0046] Another example of a magnetic accessory is a cable clip anchor 506 (as shown in FIG. 5B) which is attached to the upper surface 106 of the table top 102 and is able to hold various cables 508. The cable clip anchor 506 can include a re-closable fastener in the form of a Velcro 510 that surrounds the cables 508 to hold them in place. FIG. 5C shows a bottom perspective view of the cable clip anchor 506.

[0047] Yet another example of a magnetic accessory is a magnetic cable sheath 512 (as shown in FIG. 5D) to enclose cables 514 when positioned on a flat surface. In some embodiments, the magnetic cable sheath 512 may be attached vertically to one of the legs 104a, 104b, 104c, 104d. The magnetic cable sheath 512 may also be attached to the table top 102 in a horizontal position.

[0048] The table assembly 100 may thus include a magnetic ecosystem configured to detachably mount at least one magnetic accessory via magnetic coupling forces. The magnetic ecosystem may mount a tablemat assembly 410 to provide a smooth and continuous surface to the user for optimal mouse control and to prevent objects from slipping off the table top 102 or being knocked over. The magnetic ecosystem may also mount magnetic accessories 500 for a cable management system, in which loose cables and wires maybe routed and organized with accessories, such as magnetic cable clips 502, or cable clip anchors 506. In addition, cables may be hidden along each leg 104a, 104b, 104c, 104d of the table assembly 100 with magnetic cable sheaths 512. A clean and clutter free environment may thus be provided, which may be aesthetically appealing to the user.

[0049] FIG. 6A shows a close-up perspective view 600A of a hinge member 602 of the table assembly 100. FIG. 6B shows a close-up perspective view 600B of the hinge member 602 in connection with a cover member 108, and the insets (i.) and (ii.) show magnified views of the hinge member 602 and the hinge plate member 608. FIG. 6C shows a perspective top view 600C of the hinge member 602 on the table top 102. FIGS. 6D and 6E show close-up perspective views 600D, 600E of the assembly of the hinge member 602 to the table top 102. Referring to FIGS. 6A to 6E, the table assembly 100 includes a cable tray 606 disposed adjacent an edge of the table top 102. A cover member 108 may be configured to cover the cable tray 606, and the cover member 108 may be pivotable between a first position flush with table top 102 and a second position inclined to the table top 102, as shown in FIGS. 6A, 6B, 6D and 6E. A hinge member 602 is configured to pivot the cover member 108 between the first and second positions without laterally extending the cover member 108 from the edge of the table top 102. The hinge member 602 may therefore allow the cover member 108 to be pivoted without having to touch a wall against which the table assembly 100 may be placed. In other words, the cover 108 can pivot inwards towards the user when flipped open (in the second position) as shown in FIGS. 6A, 6B, 6D and 6E. A bracket 604 that is fixedly mounted to the cover member 108 may be configured to receive the hinge member 602, and the hinge member 602 may be mounted to the table top 102 as shown in FIG. 6A. The hinge member 602 may comprise a plate having two arms 603 extending from one end of the plate to receive corresponding slots formed on the bracket 604, an elevated portion 605 extending from another end of the plate to allow the bracket and the cover member 108 to rest thereon when in a closed position, and a hinge plate member 608 positioned offset from a longitudinal axis of the plate where the two arms and elevated portion extends from. In some embodiments, the hinge plate member 608 (shown attached to the hinge member 602 in inset FIG. 6B(i.)), and as an integrated member with the hinge member 602 in inset FIG. 6B(ii.)) may receive fasteners to mount the hinge member 602 onto the table top 102. As shown in FIGS. 6D and 6E, the hinge plate member 608 may be arranged in line, e.g. on top of, with a plate member 610 of the table top 102, and may be attached to the plate member 610 of the table top 102 via fasteners (see arrows in FIGS. 6D and 6E). Accordingly, the cover member 108 may be attached to the table top 102. The hinge member 602 may move between the first and second positions with smooth operation while retaining its resistance, to provide the user with a simple mechanism for storing and managing cables and wires. The table assembly 100 may thus allow cables and wires to be hidden from sight and kept neatly in the cable tray 606 when the cover member 108 covers the cable tray 606 in the first position. As such, a clean table top 102 free from clutter may be provided, and may be aesthetically appealing to the user.

[0050] As shown in FIG. 1, the plurality of legs 104a, 104b, 104c, 104d may extend from the lower surface of the table top 102. Each of the plurality of legs 104a, 104b, 104c, 104d may have a hollow

section and may be mounted to the table top 102 via joint members 110a, 110d which may be flexible or rigid. The plurality of legs 104a, 104b, 104c, 104d may be made of a metallic material, which may be the same metallic material as that of the upper surface 106 of the table top 102. In some embodiments, the plurality of legs 104a, 104b, 104c, 104d may be made of steel. This allows magnetic accessories, such as the magnetic cable sheath 512 to be attached and magnetically coupled to the leg. It is contemplated that other desired magnetic accessories may also be attached to the leg. The joint members 110a, 110d may be made of aluminium, which may allow the ease of manufacturing die-cast covers for the joint members 110a, 110d. A height adjustment mechanism 700 may be disposed in each of the plurality of legs 104a, 104b, 104c, 104d to adjust a height of the leg. The table assembly 100 further includes the cover member 108 that is mounted along an edge of the table top 102 by a hinge member (shown in FIGS. 6A and 6B).

[0051] FIG. 7A shows a perspective view 700A of an embodiment of a height adjustment mechanism 700 in a leg of the table assembly 100. The height adjustment mechanism 700 may include a rotatable member 708 accessible on an exterior surface of the leg 702 and a telescopic member 704 connected to the rotatable member 708. The rotatable member 708 may extend into the hollow section of the leg 702. The telescopic member 704 is disposed in the hollow section of the leg 702. The hollow section of the leg 702 is configured to receive the telescopic member 704 such that the hollow section 702 covers at least an area of the telescopic member 704. The telescopic member 704 may include a plurality of visual indicators 206 disposed on a side surface for indicating an amount of adjustment.

[0052] In use, a bottom surface of the telescopic member 704 is in contact with the floor such that the telescopic member 704 supports a predetermined weight, including the weight of the table assembly 100. In some embodiments, the telescopic member 704 may support a weight of up to 200 kg, or preferably a weight of up to 150 kg, or 100 kg. The telescopic member 704 may be made of any material such as plastic, e.g. high-density plastic, metal, wood or any material that supports the predetermined weight, including the weight of the table assembly 100. In some embodiments, the telescopic member 704 may be made of MDF and may further include a core layer formed of or from a wood-based panel having a honeycomb structure 202 (as shown in FIGS. 2A to 2C). This may reduce the weight of the table assembly 100 without comprising the weight-bearing properties of the table assembly 100. In an embodiment and as shown in FIG. 7A, a head of the rotatable member 708 may be located at the exterior surface such that an external device, such as an Allen key, may be fitted onto the head to rotate the rotatable member 708. It can be appreciated that the rotatable member 708 can also be rotated using other devices, such as a screwdriver, to prevent accidental rotation of the rotatable member 708. Alternatively, it is contemplated that the head of the rotatable member 708 may further include a knob

surrounding the head of the rotatable member 708, to allow the user to easily rotate the rotatable member 708.

[0053] The height adjustment mechanism 700 is configured to adjust a height of each of the plurality of legs 104a, 104b, 104c, 104d. A rotation of the rotatable member 708 is configured to cause a translation of the telescopic member 704 relative to the leg for extending or retracting the telescopic member 704 from a bottom of the leg. For example, when the height adjustment mechanism 700 is used to extend the leg, an Allen key may be used to rotate the rotatable member 208. As the rotatable member 208 rotates, the telescopic member 204 protrudes from the hollow section of the leg 202 and becomes visible. On the other hand, when the height adjustment mechanism 200 is used to lower the height of the leg, the Allen key rotates the rotatable member 208 in the opposite direction such that the telescopic member 204 is retracted into the hollow section of the leg 202. It is further contemplated that a lock may be provided to hold the telescopic member 704 at a preferred height.

[0054] FIG. 7B shows a close-up view 700B of an embodiment of a height adjustment mechanism 700 with the hollow section of the leg 702 removed. As shown in FIG. 7B, the rotatable member 708 comprises a threaded shaft 709 and the height adjustment mechanism 700 further includes a wedge member 710 in threaded engagement with the shaft 709. In FIG. 7B, the wedge member 710 has a threaded hole 712 with its internal threads engaged with the threads of the shaft 709. The wedge member 710 is constrained against rotation such that the wedge member 710 slides relative to the shaft 709 as the rotatable member 708 is rotated. For example, the shape and/or size of the wedge member 710 may be selected to allow the wedge member to be slidable but not rotatable within the hollow section of the leg 702. The wedge member 710 also includes a first inclined surface 714, and the telescopic member 704 comprises a second inclined surface 716 in sliding engagement with the first inclined surface 714. In some embodiments, the telescopic member 704 may include a through-groove 718 to act as a retaining guide to allow the wedge member 710 to slide along the second inclined surface 716.

[0055] In a non-limiting example, the shaft 709 of the rotatable member 708 may be substantially horizontal. As the rotatable member 708 is rotated using the Allen key, the wedge member 710 may slide across the second inclined surface 716 which translates into a vertical movement of the telescopic member 704. For example, once the rotatable member 708 is rotated, the wedge member 710 slides along the inclined surface 716 in a left to right movement, thus increasing or decreasing the protruding length of the telescopic member 704. The rotatable member 708 holds the wedge member 710 and telescopic member 704 together. The height adjustment mechanism 700 may provide stabilisation of the table assembly 100 on an uneven floor surface. This can be achieved by individually adjusting the height of selected ones of the plurality of legs 104a, 104b, 104c, 104d to compensate for the uneven floor surface. As a result, the table top 102 can be maintained at a horizontal level on an uneven floor

surface by appropriate adjustment of the height of one or more relevant legs. In some embodiments, the height adjustment mechanism 700 may allow the table top 102 to be inclined at an angle, i.e. converting to a drawing table, or the like. This can be achieved when the plurality of legs 104a, 104b, 104c, 104d are flexibly mounted to the table top 102.

[0056] FIG. 8 shows an exploded perspective view of the various parts 800 for an embodiment of a table assembly 100. The parts for the table assembly 100 may be packaged as a kit, which includes the table top 102 having an upper surface 106 and a lower surface 107. The kit further includes a tablemat assembly 410 as described above with reference to FIGS. 4A to 4E. Briefly, the tablemat assembly 410 includes a tablemat 412 formed from or of a ferromagnetic material. The tablemat 412 may be configured to be detachably mounted on the upper surface 106 of the table top 102. The kit also includes the clip member 414 having a groove 415 extending along a longitudinal direction of the clip member 414, the groove 415 configured to receive an edge of the tablemat, and wherein the clip member and the table mat are slidably movable relative to each other. The table assembly 100 may further include the plurality of legs 104a, 104b, 104c, 104d, which may further include the height adjustment mechanism 700 described with reference to FIGS. 7A and 7B.

[0057] The table assembly 100 may be assembled by placing the table top 102 and holes (not shown) for fitting screws facing upwards on a flat surface. A plurality of plastic spacers 802a, 802b, 802c, 802d are used to slot into each joint member 110a, 110b, 110c, 110d of each of the plurality of legs 104a, 104b, 104c, 104d. The plurality of legs 104a, 104b, 104c, 104d together with the joint members 110a, 110b, 110c, 110d are then slotted into a plurality of pre-designed slots positioned at the lower surface of the table top 102 for optimal fitting. The plurality of legs 104a, 104b, 104c, 104d are then fixed onto the table top 102 using screws. The table top 102 is flipped upwards and the cover member 108 is aligned to the edge of the table top 102 and fixed in place using fasteners, e.g. screws. The height and stability of the table assembly 100 may be adjusted using the height-adjustment mechanism 700. Finally, the tablemat 412 (not shown) may be placed on the upper surface 106 of the table top 102, and the clip member 414 may slide on the edge 416 of the tablemat 412, such that the groove 415 of the clip member 414 receives the edge 416 of the tablemat 412, and the tablemat 412 may be magnetically coupled to the upper surface 106 of the table top 102, and to the clip member 414. The various parts of the table assembly 100 and the tablemat assembly 410, before assembly may be pre-packed into the kit, or packaged into a flat package such as a flat pack for better portability.

[0058] FIG. 9 shows a schematic illustration of a method 900 of manufacturing a table assembly. The method 900 comprises (a.) providing a table top having an upper surface and a lower surface; wherein the upper surface comprises a metallic material suitable for magnetic coupling with at least one magnetic accessory; and wherein the upper surface is further arranged to be layered on the lower surface

to produce at least two different magnetic coupling forces associated with different parts of the lower surface /table top when the at least one magnetic accessory is attached thereto (step S902).

[0059] The table assembly may be the table assembly 100 described with reference to the embodiments of FIGS. 1 to 3. The at least one magnetic accessory may be the tablemat assembly 410 described with reference to the embodiments of FIGS. 4A to 4E, and/or the various accessories, such as the magnetic cable holders 500 described with reference to the embodiments of FIGS. 5A to 5D. It is contemplated that other magnetic accessories, as desired by the user, may be used in conjunction with the table assembly 100.

[0060] FIG. 10 shows a schematic illustration of a method 1000 of manufacturing a tablemat assembly. The method 1000 includes (a.) providing a tablemat configured to be detachably mounted on an upper surface of a table top; and (b.) providing a clip member having a groove extending along a longitudinal direction of the clip member; wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the tablemat are slidably moveable relative to each other.

[0061] The tablemat assembly may be the tablemat assembly 400A to 400E described with reference to the embodiments of FIGS. 4A to 4E. The tablemat assembly may be used with the table assembly 100 described with reference to the embodiments of FIGS. 1 to 3. It is contemplated that other magnetic accessories, as desired by the user, such as the cable holders 500 described with reference to the embodiments of FIGS. 5A to 5D may be used in conjunction with the tablemat assembly and/or the table assembly.

[0062] As described with reference to the embodiments of FIGS. 4A to 4E, a tablemat 412 may include a first layer (e.g. the lower layer) including a mixture of rubber and ferromagnetic components and a second layer (e.g. the upper layer) made of a polyurethane material such as polyurethane leather, and may also include a design, e.g. embroidery, which is aesthetically appealing to the user. During manufacture of the tablemat 412, the second layer (e.g. upper layer) may be adhered, e.g. via stamp lamination, to the first layer (e.g. lower layer). It is contemplated that other manufacturing techniques to adhere the first and second layers (e.g. lower and upper layers) may be used.

[0063] The table assembly 100 as described herein relates to a table assembly with a magnetic ecosystem, such that its accessories can adhere to the table assembly via strong adherence means such as the use of the magnetic forces. For example, the tablemat does not slip off the table top as it is attached with strong magnetic force. The tablemat also provides a smooth surface for the user which may be important during gaming which requires optimal mouse control. The tablemat may be rolled up for portability and can roll out completely flat during assembly. In addition, accessories with a magnetic base, such as a microphone, can be attached to the table top which may prevent it from being knocked

off the table when the user is at work. Further, the fold-back portion provides a larger area for magnetic adherence to hold heavier items such as headphone holders, and can prevent it from falling or slipping off the table top. Further, cable accessories with a magnetic base, such as the cable clip or cable clip anchor, can be attached to the table top to manage the cables or wires. The presence of strong magnetic forces for attachment may be useful to users who are into electronic gaming, and users who desire a clutter-free and clean table top.

[0064] In addition, the table assembly 100, 200A, 200B, 300 as described herein provides a light-weight table assembly without comprising the weight-bearing properties of the table assembly. Further, fold-back portion of the table top provides a table assembly configured to accommodate for the expansion and/or contraction of the metallic components of the table assembly due to the temperature changes occurred during transport of the table assembly. This provides a table assembly that is light-weight and easily portable, and at the same time, prevents damage to the table top.

[0065] While the disclosure has been particularly shown and described with reference to specific embodiments, it should be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the scope of the disclosure as defined by the appended claims. The scope of the disclosure is thus indicated by the appended claims and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced.

## CLAIMS

1. A table assembly comprising:  
a table top having an upper surface and a lower surface;  
the upper surface comprises a metallic material suitable for magnetic coupling with at least one magnetic accessory;  
the upper surface further arranged to be layered on the lower surface to produce at least two different magnetic coupling forces associated with different parts of the table top when the at least one magnetic accessory is attached thereto.
2. The table assembly of claim 1, wherein the upper surface comprises a first portion layered on a first part of the lower surface, and a second portion layered on the second part of the lower surface, wherein the second portion comprises a fold-back portion.
3. The table assembly of claim 1 or 2, wherein the lower surface comprises a medium-density fibreboard (MDF).
4. The table assembly of claim 3, wherein the lower surface further comprises a core layer form of or from a wood-based panel having a honeycomb structure.
5. The table assembly of claim 1, wherein the upper surface is coated with a layer of electrical insulating material.
6. The table assembly of any one of the preceding claims, wherein the metallic material is steel having a thickness of at least 0.6 millimeters (mm).
7. The table assembly of any one of the preceding claims, wherein the at least one magnetic accessory is a tablemat assembly for a table top, the tablemat assembly comprising:  
a tablemat formed from or of a ferromagnetic material, the tablemat configured to be detachably mounted on the upper surface of the table top; and  
a clip member having a groove extending along a longitudinal direction of the clip member;  
wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the table mat are slidably movable relative to each other.

8. The table assembly of any one of the preceding claims, further comprising a cable tray disposed adjacent an edge of the table top and a cover member configured to cover the cable tray, wherein the cover member is pivotable between a first position flush with table top and a second position inclined to the table top.

9. The table assembly of claim 8, further comprising a hinge member configured to pivot the cover member between the first and second positions without laterally extending the cover member from the edge of the table top.

10. The table assembly of any one of the preceding claims, wherein the at least one magnetic accessory is a cable holder configured to hold at least one cable, and wherein the cable accessory is detachably mounted on the upper surface of the table top or a leg of the table assembly.

11. The table assembly of any one of the preceding claims, further comprising  
a plurality of legs extending from the lower surface of the table top, each leg having a hollow section; and

a height adjustment mechanism disposed in each leg for adjusting a height of said leg;

wherein the height adjustment mechanism comprises a rotatable member accessible on an exterior surface of the leg and a telescopic member connected to the rotatable member, the telescopic member being disposed in the hollow section of the leg; and

wherein a rotation of the rotatable member is configured to cause a translation of the telescopic member relative to the leg for extending or retracting the telescopic member from a bottom of the leg.

12. The table assembly as claimed in claim 11, wherein the rotatable member comprises a threaded shaft extending into the hollow section of the leg, and wherein the height adjustment mechanism further comprises a wedge member in threaded engagement with the shaft.

13. The table assembly as claimed in claim 12, wherein the wedge member is configured to slide relative to the shaft as the rotatable member is rotated.

14. The table assembly as claimed in claim 13, wherein the wedge member comprises a first inclined surface, and wherein the telescopic member comprises a second inclined surface in sliding engagement with the first inclined surface.

15. The table assembly of any one of claims 11 to 14, wherein the telescopic member comprises a plurality of visual indicators disposed on a side surface for indicating an amount of adjustment.
16. A kit of parts for a table assembly, the kit comprising:  
a table top having an upper surface and a lower surface;  
a tablemat formed from or of a ferromagnetic material, the tablemat configured to be detachably mounted on the upper surface of the table top; and  
a clip member having a groove extending along a longitudinal direction of the clip member;  
wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the table mat are slidably movable relative to each other.
17. The kit of claim 16, further comprising  
a plurality of legs, each leg being mountable to the lower surface of the tabletop and having a hollow section; and  
a height adjustment mechanism disposed in each leg for adjusting a height of said leg;  
wherein the height adjustment mechanism comprises a rotatable member accessible on an exterior surface of the leg and a telescopic member connected to the rotatable member, the telescopic member being disposed in the hollow section of the leg; and  
wherein a rotation of the rotatable member is configured to cause a translation of the telescopic member relative to the leg for extending or retracting the telescopic member from a bottom of the leg.
18. A method of manufacturing a table assembly comprising the step of  
(a.) providing a table top having an upper surface and a lower surface;  
wherein the upper surface comprises a metallic material suitable for magnetic coupling with at least one magnetic accessory; and  
wherein the upper surface is further arranged to be layered on the lower surface to produce at least two different magnetic coupling forces associated with different parts of the lower surface when the at least one magnetic accessory is attached thereto.
19. A tablemat assembly for a table top, the assembly comprising:  
a tablemat configured to be detachably mounted on an upper surface of the table top; and  
a clip member having a groove extending along a longitudinal direction of the clip member;  
wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the tablemat are slidably movable relative to each other.

20. The tablemat assembly of claim 19, wherein the clip member is configured to be mounted on the upper surface of the table top at a position abutting an edge of the table top.
21. The tablemat assembly of any one of claims 19 or 20, wherein the clip member is metallic and the tablemat is made of a ferromagnetic material.
22. The tablemat assembly of any one of claims 19 to 21, wherein the clip member comprises a pair of longitudinally extending walls, the walls defining the groove therebetween.
23. The tablemat assembly as claimed in claim 22, wherein the clip member and the tablemat are slidably movable relative to each other along a transverse direction of the clip member, and wherein the edge of the tablemat is configured to be occluded by one of the walls.
24. A method of manufacturing a tablemat assembly for a table top comprising the steps of
- (a.) providing a tablemat configured to be detachably mounted on an upper surface of a table top;
  - (b.) providing a clip member having a groove extending along a longitudinal direction of the clip member;
- wherein the groove is configured to receive an edge of the tablemat, and wherein the clip member and the tablemat are slidably moveable relative to each other.
25. A hinge assembly for use with a table assembly of claim 9, the hinge assembly comprises
- a bracket comprising a plurality of slots for mounting onto the cover member;
  - a plate having two arms extending from one end of the plate to receive corresponding slots formed on the bracket;
  - an elevated portion extending from another end of the plate operable to allow the bracket and the cover member to rest thereon; and
  - a hinge plate member positioned offset from a longitudinal axis of the plate where the two arms and elevated portion extends from.