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(54) **NEW SUDOKU BOARD DESIGN**

(57) The present invention relates to a kit for playing sudoku, comprising a plurality of sudoku tiles and a game board suitable for playing sudoku by laying and if necessary moving sudoku tiles, comprising a polygonal top face, preferably square or rectangular; one or more side faces which are connected to the top face on at least one side, and which define a bottom face, wherein on the top face a plurality of cells are provided in a square or rectangular grid pattern, the cells being recessed relative to

the top face, the cells being suitable for receiving sudoku tiles, and wherein the game board further comprises a storage space, preferably a drawer, and comprises a cavity, preferably a notch on the bottom face, suitable for a storage space, preferably a cavity for receiving the drawer, the top face and bottom face being at a minimum angle of preferably 5°, more preferably 6°, more preferably 8°.

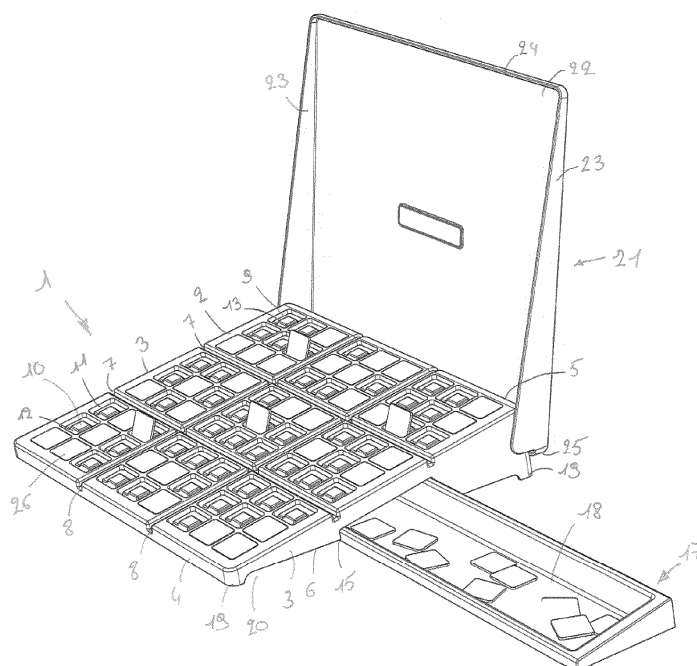


Fig. 7

Description

TECHNICAL FIELD

[0001] The invention described in this document relates to a kit for playing sudoku. In particular, the invention relates to a game board suitable for setting up and solving a Sudoku puzzle with game tiles.

PRIOR ART

[0002] Such a device is known, for example, from JP 2012 100739 (JP '739). This document describes a sudoku board. The sudoku board comprises a game board, a drawer, and a lid. Such a game board comprises on an upper side a grid subdivided into 9 sub-grids, arranged in a 3 by 3 pattern. The sub-grids are equipped with cells for receiving sudoku tiles. These cells are provided with a recess, in which 2 grooves are made in each recess, suitable for tilting the sudoku tiles. The sudoku tiles can be placed in a drawer, where such a drawer can be slid into the game board. When storing the sudoku board, the board can be covered with a lid.

[0003] However, JP '739 has some drawbacks. For example, it can often happen that difficult sudoku puzzles are played for a long time and the user can suffer from neck pain. In addition, it is not always easy to detach the tiles from the game board and this can often mean a long learning curve to tilt a sudoku tile in a certain direction for removing the sudoku tile.

[0004] Also known is a sudoku game board from US 2007 284815 (US '815). US '815 relates to a sudoku game board in which the game board has a similar grid layout as JP '739. Such game board has cells, suitable for receiving marker marks and erasing them later.

[0005] Such a game board from US '815 has the disadvantage that marker marks or notes can be accidentally erased during the game, which can lead to annoyance and possibly unnecessary restart of the game.

[0006] The present invention aims to solve at least some of the above problems or drawbacks.

SUMMARY OF THE INVENTION

[0007] In a first aspect, the present invention is a kit for playing sudoku according to claim 1. Because the game board with the top face is at an angle with respect to the bottom face, this is very advantageous for the ergonomics of the sitting position. This reduces the need for the user to move their head downwards for a full view of the game board and as a result, the user suffers less pain in the neck. In this way, the user can enjoy the game for a longer period of time without having to stop because of back or neck complaints. An additional advantage is that a drawer can now be placed in the game board, suitable for easy storage of sudoku tiles.

[0008] It should be noted that the invention is not limited to only playing sudoku, but that variations thereof are

also possible, with more or fewer squares and/or blocks, or other shapes such as a symboku, or irregular block shapes, so-called irregular sudokus. Still other adaptations thereof exist or have been designed, such as futoshikis, cross sum puzzles (Kakuro puzzles), binary puzzles and the like. Thus, the sudoku tiles are not limited to tiles with numbers from 1 to 9 on them, but can also include letters, symbols, colors, or other shapes.

[0009] Preferred embodiments of the device are set out in claims 2-14.

[0010] A specific preferred embodiment of the invention relates to a kit for playing sudoku according to claim 4, however, it is very advantageous since the user can easily remove an already placed sudoku tile from the game board, without disturbing the position of other tiles. The sudoku tile can now be easily tilted in any direction to take out the sudoku tile. In this way, the user does not have to adapt to the board and there is no learning curve.

[0011] Another specific preferred embodiment of the invention relates to a kit for playing sudoku according to claim 5. This has the advantage that a tile can be placed upright in a cell. This makes it easy to place a tile upright in a cell when in doubt without taking further notes or remembering a possible move.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

Figure 1 shows an isometric view of the game board with a closed lid.

Figure 2 shows an isometric view of the game board with a raised lid.

Figure 3 shows an isometric view of the game board with a raised lid, with sudoku tiles placed on the game board.

Figure 4 shows an isometric view of the game board with a raised lid, with a drawer placed next to the game board.

Figure 5 shows an isometric view of the game board, with the drawer partly placed in the game board.

Figure 6 shows an isometric view of the game board with a drawer placed next to the game board, with sudoku tiles placed on the game board and in the drawer.

Figure 7 shows an isometric view of the game board with a drawer partially placed in the game board, with sudoku tiles placed on the game board and in the drawer.

DETAILED DESCRIPTION OF THE INVENTION

[0013] Unless otherwise defined, all terms used in the description of the invention, including technical and scientific terms, have the meaning as commonly understood by a person skilled in the art to which the invention pertains. For a better understanding of the description of the invention, the following terms are explained explicitly.

[0014] In this document, "a" and "the" refer to both the singular and the plural, unless the context presupposes otherwise. For example, "a segment" means one or more segments.

[0015] When the term "around" or "about" is used in this document with a measurable quantity, a parameter, a duration or moment, and the like, then variations are meant of approx. 20% or less, preferably approx. 10% or less, more preferably approx. 5% or less, even more preferably approx. 1% or less, and even more preferably approx. 0.1% or less than and of the quoted value, insofar as such variations are applicable in the described invention. However, it must be understood that the value of a quantity used where the term "about" or "around" is used, is itself specifically disclosed.

[0016] The terms "comprise", "comprising", "consist of", "consisting of", "provided with", "include", "including", "contain", "containing", are synonyms and are inclusive or open terms that indicate the presence of what follows, and which do not exclude or prevent the presence of other components, characteristics, elements, members, steps, as known from or disclosed in the prior art.

[0017] Quoting numerical intervals by endpoints comprises all integers, fractions and/or real numbers between the endpoints, these endpoints included.

[0018] The invention relates in a first aspect to a kit for playing sudoku by laying and if necessary moving sudoku tiles.

[0019] According to a preferred embodiment, the kit comprises a plurality of sudoku tiles and a game board suitable for playing sudoku by laying and, if necessary, moving and removing sudoku tiles. The game board comprises a polygonal top face, preferably square or rectangular, and one or more side faces which are connected to the top face by at least one side and define a bottom face. On the top face, a plurality of cells are provided in a square or rectangular grid pattern, the cells being recessed relative to the top face. The cells are suitable for receiving sudoku tiles. The game board further comprises a storage space, preferably a drawer and a cavity, preferably a notch on the bottom face, suitable for receiving the drawer. The top face and bottom face are at an angle to each other with a minimum angle of 5°. The angle between the top face and the bottom face is preferably at least 6.5°, more preferably 7°, even more preferably 7.5°.

[0020] According to one embodiment, the angle between the top face and bottom face is at most 20°, preferably at most 15°, more preferably at most 12.5°, even more preferably at most 10°, and even more preferably

at most 9.5°, even more preferably 9°, even more preferably 8.5°.

[0021] An angle between the top face and bottom face of the game board is advantageous, because the user hardly has to move their head down to get a view over the entire game surface of the game board. Thus, the likelihood of tension in the neck is much lower and such an angle has an advantageous effect on the ergonomic sitting posture while playing. This makes it possible to play longer without straining the neck. An additional advantage of the angle is that the farthest end of the top face of the game board is closer to the user, so that users with less good vision can see all parts of the game board well without moving too much.

[0022] According to one embodiment, the cavity, preferably a notch, suitable as a storage space, comprises an opening on at least one side face of the game board. The opening has a shape identical to the shape of the cross-section perpendicular to the longitudinal direction of the notch. An advantage of such a cavity is that a drawer can be placed in the cavity. If there is only one opening in a side face of the game board, the opposite side face will prevent the drawer from sliding in any further, with the drawer being fully slid into the game board at that time.

[0023] According to a further embodiment, the cavity in the bottom face comprises two equal openings on two opposite side faces of the game board. The advantage of such openings is that they are each suitable for receiving a drawer. In this way the drawer can slide out in a direction towards the opposite side face by pushing it. Sliding the drawer out is very easy in this way.

[0024] According to a further embodiment, the storage space in the bottom face is a cavity, the cavity comprising an opening in the bottom face. This opening can be closed, wherein the closing of the opening can be by means of a lid. The lid can be detachably attached in the corresponding opening. Such a lid preferably includes at least one protrusion on one side that can be placed in a hole, the hole being located on a side of the opening adjacent to the bottom face. More preferably, the lid is hingedly attached to one side of the cavity common to one side of the opening in the bottom face. The lid preferably comprises on a side opposite to the protrusion or hinge element of the lid a spring element, which detachably fastens the lid in the bottom face.

[0025] According to a preferred embodiment, the top face of the game board comprises a grid pattern, the grid pattern comprising 9 sub-grids, preferably square or rectangular. Such sub-grids are arranged in a 3 by 3 pattern, wherein the sub-grids are each provided with 9 cells subdivided into a 3 by 3 pattern.

[0026] The distinction between the sub-grids can be made by means of markings, protrusion, color and/or grooves.

[0027] According to a further embodiment, the top face comprises two sets of grooves for distinguishing the sub-grids in the grid pattern, the grooves of each set being parallel to each other. The grooves of the first set are

perpendicular to the grooves of the second set, with at least one set of grooves being parallel to one side of the top face of the game board.

[0028] This makes it very easy to distinguish the sub-grids from each other in the grid pattern. This way there is no confusion when using the game board.

[0029] The cells in the sub-grid can have different shapes, e.g. circular cells, square or rectangular cells or star-shaped cells can be provided in the sub-grids.

[0030] According to a preferred embodiment, the cells in the sub-grid comprise a supporting surface. The supporting surface is recessed in relation to the top face, the supporting surface being centrally positioned in the cells. Preferably, the distance between the recess of the supporting surface and the top face is at most equal to the thickness of a sudoku tile. This will make the sudoku tiles in the cells lie slightly above or flush with the top face. The tiles are larger than the supporting surface, so that when a tile is positioned on a supporting surface, it always protrudes in relation to the supporting surface.

[0031] Such supporting surface is advantageous in that sudoku tiles have the option of being placed in a cell on the supporting surface. Because the supporting surface is recessed relative to the top face, preferably by a distance substantially equal to the thickness of a sudoku tile, the sudoku tile cannot shift and the placed sudoku tiles remain in their position at all times.

[0032] According to a further embodiment, the shape of the sudoku tiles is approximately the same as the shape of the cells, preferably slightly smaller. As a result, the edges of a sudoku tile close up against the corresponding edges of the cell. This is advantageous because the sudoku tile cannot twist in the cell. In this way, there is also little play between the inner walls of the cells and the edges of the sudoku tile.

[0033] According to a preferred embodiment, the cells comprise a groove between the edge of the cells and the circumference of the supporting surface. The groove extends around the entire supporting surface, with the groove being recessed relative to the supporting surface.

[0034] The advantage of such a groove in the cell around the circumference of the supporting surface is that a placed sudoku tile can be tilted over each side of the supporting surface in the direction of the groove. Thus, the user does not have to adapt to the board and can tilt the tiles in any direction when removing the sudoku tile in the cell.

[0035] According to a further embodiment, the edges of the supporting surface are rounded or chamfered. Such a design ensures a better and smoother tilting of a sudoku tile over the edge of the supporting surface.

[0036] According to a preferred embodiment, the groove around the supporting surface comprises 4 sub-grooves, wherein at least one sub-groove is deeper than the other sub-grooves. The sub-groove deeper than the other sub-grooves is preferably 1.5 to 2 times deeper than the other sub-grooves relative to the supporting surface. The respective sub-groove is preferably 1.6 times

deeper than other sub-grooves with respect to the supporting surface, more preferably 1.8 times deeper, even more preferably 1.9 times deeper.

[0037] The deeper groove is very advantageous because a sudoku tile can be placed upright in that groove, with one side of the sudoku tile leaning against a wall of the supporting surface. In such games it often happens that there is uncertainty about a certain move or step, so a guess has to be made. In many cases, this guess should be remembered or noted down. Placing the sudoku tile upright in a cell is advantageous in this way to indicate an uncertain move; as a result, no notes have to be taken or it does not have to be remembered. In this way it is possible to visualize an uncertain move or step during the game and you can still continue playing. In addition, it is even possible in this way to use this as a 'normal' position, in which the tiles are placed upright, and the game board can be viewed during use under an even lower load on the neck muscles of the user. Preferably, the upright walls of the supporting surface are not perpendicular to the plane of the game board, but taper towards the game board, or at least the side wall at the deeper groove, with a minimum angle relative to perpendicularity that is greater than the angle at which the top face of the game board is in relation to the bottom face.

[0038] According to one embodiment, the cavity comprises L-shaped sliding elements, which sliding elements comprise a top and a bottom. Preferably the top of the sliding elements is flush with the bottom face. The sliding elements are suitable for receiving a drawer or another storage element. As a result, a drawer with a bottom face thereof can be slid over the sliding elements. The sliding elements are limited in area to limit the contact area between the sliding elements and the drawer. Such sliding elements can be glued to the walls of the cavity. Preferably, the sliding elements are part of a mold, whereby these sliding elements form one whole together with the game board.

[0039] Such L-shaped sliding elements are advantageous in that they reduce the friction between the drawer and the game board, so that the drawer can slide more easily into the game board. Another advantage is that as a result less material has to be used during production.

[0040] According to one embodiment, the game board comprises a polygonal lid, preferably square or rectangular; with one or more side faces, which are connected to the lid on at least one side. In this case, the lid is suitable for being placed on the top face of the game board, with the side surfaces fitting over the side faces of the game board. The lid can preferably be placed on the game board with a fastening means detachably holding the lid in place. The fastening means of the lid on the game board can be a snap connection, a compression spring, a leaf spring, or a magnet.

[0041] Such a lid has the advantage of covering the game board. This prevents dust from getting on the game board when the game is no longer played, but also prevents the tiles from being accidentally disturbed.

[0042] A lid has the additional advantage that it can be used as a separating means during a game with an opponent. In this way, both players can solve the same puzzle without being able to copy each other's progress, with the player with the fastest time winning.

[0043] Another advantage is that due to the fastening means, the lid cannot be taken off the game board without a small force. This prevents the lid from accidentally falling off the game board and potentially causing sudoku tiles to fall out of the cells.

[0044] An additional advantage of the side faces of the lid that fit over the side faces of the game board is that a drawer slid into the cavity in the game board is blocked so that it cannot slide out of the game board when the lid is closed.

[0045] According to a further embodiment, the lid is hingedly attached to the game board. Preferably, the lid is hinged to the game board at the rear, so that the lid opens in the direction towards the rear of the game board. In this way the lid is always present on the game board and prevents losing the lid. Because the lid is hingedly attached, the lid can always be placed on the game board in the correct position with one smooth movement.

[0046] According to a further embodiment, the game board comprises a lid hinged to the game board and a fastening means on at least one side of the game board. This keeps the lid hinged shut and the lid cannot hinge open without applying a small force.

[0047] According to one embodiment, the bottom face comprises at least 2 support elements, preferably two raised side faces of the game board, at the bottom face. In the case of side faces, these are preferably two opposite side faces from the game board. Such support elements raise the bottom face of the game board relative to the ground. In addition to the raised sides, the support elements can also be a small protrusion or rubber feet on each corner of the bottom face.

[0048] Support elements are in fact advantageous because the bottom face will be raised from the ground. This allows the game board to be placed on uneven surfaces. Another advantage is that in this way a space is freed up under the bottom face of the game board which makes it easier to grip the drawer.

[0049] According to one embodiment, the game board is made of a thermoplastic material, preferably ABS. Thermoplastic materials are very advantageous in combination with injection molding. Thermoplastic materials liquefy at elevated temperatures, allowing them to easily take on the shape of a mold.

[0050] Preferably the material used is ABS. ABS is namely a strong and sturdy material, which is very advantageous to protect the game board against scratches. In addition, ABS has a long lifespan, and it is very easy to apply colors.

[0051] According to one embodiment, the game board comprises a length between 20 cm and 40 cm, preferably between 25 cm and 37 cm, more preferably between 27 cm and 35 cm and a width between 20 cm and 40 cm,

preferably between 25 cm and 37 cm, more preferably between 27 cm and 35 cm. Possible upper and lower limits for the length and the width of the game board are: 20 cm, 21 cm, 22 cm, 23 cm, 24 cm, 25 cm, 26 cm, 27 cm, 28 cm, 29 cm, 30 cm, 31 cm, 32 cm, 33 cm, 34 cm, 35 cm, 36 cm, 37 cm, 38 cm, 39 cm, 40 cm or higher. Limits between the aforementioned values are also possible.

[0052] According to a preferred embodiment, the sub-grooves have a depth and a width, the depth being at least 10%, preferably at least 25%, more preferably at least 33% of the width. Possible upper and lower limits for depth versus width are: 10%, 12.5%, 15%, 17.5%, 20%, 22.5%, 25%, 27.5%, 30%, 32%, 34%, 36%, 38%, 40%, 42%, 44%, 46%, 48%, 50%, 52%, 54%, 56%, 58%, 60%, 62%, 64%, 66%, 68%, 70%, 72%, 74%, 76%, 78%, 80%, 82%, 84%, 86%, 88%, 90%, 95%, 100%, 110%, 120% or more. Such ratio may also depend on the shape of the sudoku tiles and thus their dimensions. This is namely required so that a sudoku tile can easily be tilted at a certain angle, whereby the sudoku tile can easily be removed from the game board. A usual tilt angle of at least 30° is desired here, which requires a ratio of about 10% to 60%, preferably 22% to 42%, between the width and the depth.

[0053] According to one embodiment, the sub-grooves around the supporting surface have a width between 3 mm and 18 mm, preferably between 4 mm and 14 mm, more preferably between 5 and 12 mm. Possible upper and lower limits for the width of the grooves can be as follows: 4 mm, 6.5 mm, 7.0 mm, 7.5 mm, 8.0 mm, 8.5 mm, 9.0 mm, 9.5 mm, 10.0 mm, 10.5 mm, 11.0 mm, 11.5 mm, 12.0 mm, 12.5 mm, 13.0 mm, 13.5 mm, 14 mm, 14.5 mm, 15.0 mm, 15.5 mm, 16.0 mm, 16.5 mm, 17.0 mm, 17.5 mm, 18.0 mm. Limits between the aforementioned values are also possible. The sub-grooves around the supporting surface further comprise a depth between 1.0 mm and 4.0 mm, preferably 1.5 mm and 3.5 mm, more preferably between 2.0 mm and 2.5 mm. Possible upper and lower limits for the thickness of the grooves are: 1.0 mm, 1.1 mm, 1.2 mm, 1.3 mm, 1.4 mm, 1.5 mm, 1.6 mm, 1.7 mm, 1.8 mm, 1.9 mm, 2.0 mm, 2.1 mm, 2.2 mm, 2.3 mm, 2.4 mm, 2.5 mm, 2.6 mm, 2.7 mm, 2.8 mm, 2.9 mm, 3.0 mm, 3.1 mm, 3.2 mm, 3.3 mm, 3.4 mm, 3.5 mm, 3.6 mm, 3.8 mm, 3.9 mm, 4.0 mm or higher. Limits between the aforementioned values are also possible.

[0054] The deeper groove as previously described comprises a depth between 1.3 times and 2 times the depth of the other sub-grooves. Possible upper and lower limits of the ratio are: 1.3 times, 1.4 times, 1.5 times, 1.6 times, 1.7 times, 1.8 times, 1.9 times, 2.0 times. Values between the aforementioned numbers are also possible.

[0055] The sudoku tiles have a thickness, where the respective thickness is at most half the width of a groove. This ratio has the advantage that the sudoku tiles hang over a groove sufficiently, making it easy to tilt a sudoku tile in the direction towards the groove. In addition, this

ratio ensures that the sudoku tile can be placed obliquely upright in the deeper groove, with an angle that is at least equal to the angle between the top face and the bottom face of the game board. As a result, the sudoku tile is not perpendicular to the game surface, which makes reading the number on the sudoku tiles difficult. But instead, the relevant sudoku tiles are angled toward the back of the game board so that they are easy to read.

[0056] According to one embodiment, the cavity in the bottom face of the game board has a width approximately equal to 50% of the length of the game board, preferably 40%, more preferably 30%. Possible upper and lower limits for that width are: 30%, 32.5%, 35%, 37.5%, 40%, 42.5%, 45%, 47.5%, 50% or higher. Limits between the aforementioned values are also possible. In addition, the cavity has a length approximately equal to the width of the game board. The cavity substantially comprises a shape congruent with the shape of the two equal side faces of the game board. The aforementioned ratio of the width of the cavity relative to the length of the game board ensures that all sudoku tiles in the kit can easily fit into the aforementioned cavity.

[0057] According to an embodiment of the game board, the sudoku tiles can be detachably attached in the cells of the grid. The sudoku tiles have a shape identical with that of the circumference of a cell. Preferably, the dimensions of the sudoku tiles are slightly smaller than those of the cell, preferably 0.1 mm - 1 mm smaller.

[0058] In what follows, the invention is described by way of non-limiting examples or figures illustrating the invention, and which are not intended to and should not be interpreted as limiting the scope of the invention.

[0059] The invention will now be described in more detail with reference to the following non-limiting examples or figures.

DETAILED DESCRIPTION OF THE DRAWINGS

[0060] Figures 1-7 show an embodiment according to the invention. This embodiment describes a game board for playing sudoku by laying and if necessary moving sudoku tiles, as described in this document. Figure 1 shows an isometric view of the game board with a closed lid, Figure 2 shows an isometric view of the game board with a raised lid, Figure 3 shows an isometric view of the game board with a raised lid, with sudoku tiles placed on the game board, Figure 4 shows an isometric view of the game board with a raised lid, with a drawer placed next to the game board, Figure 5 shows an isometric view of the game board, with the drawer partly placed in the game board, Figure 6 shows an isometric view of the game board with a drawer placed next to the game board, with sudoku tiles placed on the game board and in the drawer, Figure 7 shows an isometric view of the game board with a drawer partially placed in the game board, with sudoku tiles placed on the game board and in the drawer.

[0061] The game board (1) comprises a four-sided top face (2) suitable as a game surface (2) for placing sudoku

tiles (26, 27). The top face (2) further comprises four side faces (3, 4, 5) which are connected to the top face (2) by at least one side, of which two opposite side faces (3) are identical and the two other side faces (4, 5) are different. The two different side faces (4, 5) have a substantially rectangular shape, these side faces (4, 5) having an equal width and a different height. The side face (4) with the smallest height is positioned at the front of the game board (1), the side face (5) with the largest height being positioned at the rear of the game board (1). Together, these side faces (3, 4, 5) form a bottom face (6) parallel to the surface on which the game board (1) is placed, wherein the top face (2) and the bottom face (6) are at a minimum angle of 5°. The two equal side faces (3) have a substantially triangular shape and are placed on the side of the game board (1).

[0062] The game board (1) comprises a grid on the top face (2), the grid being formed by grooves (7, 8). The grooves (7, 8) comprise two sets of grooves (7, 8), these two sets of grooves (7, 8) being perpendicular to each other. The grooves (7, 8) of each set are parallel to each other and at least one set of grooves (7 or 8) is parallel to one side of the game surface (2). Furthermore, the grid pattern comprises 9 equal sub-grids arranged in a 3 by 3 pattern, each sub-grid comprising nine cells (9). The cells (9) are arranged in a 3 by 3 pattern. In addition, the cells (9) are suitable for receiving sudoku tiles (26, 27). Furthermore, each cell (9) comprises a supporting surface (10) centrally positioned in each cell (9), suitable for supporting a sudoku tile (26). The supporting surface (10) is recessed by a distance at most equal to the thickness of a sudoku tile (26, 27) relative to the top face (2). In this way, the sudoku tiles (26) come to lie flush with or slightly above the top face (2). Furthermore, the cell (9) comprises a groove (11, 12), said groove (11, 12) being positioned between the edge of the cell (9) and the edge of the supporting surface (10). The groove (11, 12) extends around the entire supporting surface (10), the groove (11, 12) being recessed relative to the supporting surface (10). This groove (11, 12) is divided into four sub-grooves (11, 12), each sub-groove (11, 12) running into the adjoining groove (11, 12). Each sub-groove (11, 12) comprises two walls, one wall being common to a wall of the cell (9) and a second wall being common to a wall of the supporting surface (10). One sub-groove (12) is deeper than the other sub-grooves (11), suitable for upright positioning (27) of a sudoku tile (26, 27) in a cell (9). The grooves (11, 12) are provided so that a sudoku tile (26) can be tilted over either side of the supporting surface (10), in the direction of the groove (11, 12). The supporting surface (10) is rounded around the edge (13) to make tilting easier and smoother.

[0063] The game board (1) further comprises in the bottom face (6) a cavity (14), preferably a notch (14), suitable as a storage space for storing sudoku tiles (26, 27). The cavity (14) comprises at least one opening (15), the cavity (14) having a length approximately equal to the width of the game board (1) and a width approximately

equal to the height of a sub-grid. The cross-section of the cavity (14) in a longitudinal direction is equal to the shape of an opening (15). The shape of the opening (15) herein essentially traces that of a triangle, which is partly congruent with the shape of the two equal side faces (3) of the game board (1). The cavity (14) comprises L-shaped sliding elements (16), these sliding elements (16) and the opening (15) being suitable for receiving a drawer (17). The L-shaped sliding elements (16) are attached to at least two walls of the cavity (14). Preferably the top (18) of the L-shaped sliding elements (16) is located at the same height as the bottom face (6). Said sliding elements (16) ensure that the friction between the sliding elements (16) and the drawer (17) slid into the opening (15) is reduced to a minimum. As a result, the drawer (17) can easily be slid into the cavity (14). Such a drawer (17) has a length equal to the cavity (14) and a width and a height preferably slightly smaller than the opening (15), in order to minimize the friction when sliding the drawer (17) in. The drawer (17) has an open recess (18), suitable for storing sudoku tiles (26, 27) as seen in Figures 6 and 7. The bottom face (6) further comprises at least two support elements (19), the respective support elements (19) being an elevation of the two different opposite side faces (4, 5) of the game board (1) relative to the bottom face (6). These two support elements (19) lift the game board (1) from the ground, so that an open space (20) is created under the game board (1). Such open space (20) makes it easier to place the game board (1) on a surface which may be uneven. In addition, this ensures that there is space (20) under the handle of the drawer (17), and it is easier to grip the drawer (17) in the game board (1).

[0064] Furthermore, the game board (1) comprises a lid (21), wherein the lid (21) is a four-sided panel (22), suitable to be placed on the game board (1) as seen in Figure 1. The four-sided panel (22) has a surface and a circumference at least equal to that of the top face (2) of the game board (1). The lid (21) further comprises four side faces (23, 24, 25) with at least one side connected to the lid (21), with the side faces (23, 24, 25) in the case of a closed lid (21) fitting over the side faces (3, 4, 5) of the game board (1). The shape of the side faces (23, 24, 25) of the lid (1) are substantially the same as the shape of the side faces (3, 4, 5) of the game board (1), but have each time a height smaller than that of the side faces (3, 4, 5) of the game board (1). The lid (21) is hingedly attached to the game board (1). In this way the lid (21) can easily be closed in one smooth movement. The side faces (23, 24, 25) of the lid (21) fit over the corresponding side faces (3, 4, 5) of the game board (1) and over the retracted drawer (17) placed in the game board (1). This encloses the drawer (17) in the game board (1) and the drawer (17) can thus not be removed when the lid (21) is closed.

Claims

1. Kit for playing sudoku, comprising a plurality of su-

doku tiles and a game board, suitable for playing sudoku by laying and if necessary moving sudoku tiles, comprising a polygonal top face, preferably square or rectangular; one or more side faces which are connected to the top face on at least one side, and which define a bottom face, wherein on the top face a plurality of cells are provided in a square or rectangular grid pattern, the cells being recessed relative to the top face, the cells being suitable for receiving sudoku tiles, and wherein the game board further comprises a storage space, preferably a drawer, and comprises a cavity, preferably a notch on the bottom face, suitable for a storage space, preferably a cavity for receiving the drawer, **characterized in that** the top face and bottom face are at a minimum angle of preferably 5°, more preferably 6°, more preferably 8°.

2. The kit for playing sudoku according to claim 1, **characterized in that** the grid pattern comprises sub-grids, wherein there are 9 sub-grids arranged in a 3 by 3 pattern, the sub-grids each having 9 cells subdivided in a 3 by 3 pattern.
3. The kit for playing sudoku according to claim 1 or 2, **characterized in that** the cells in the sub-grids comprise a supporting surface, the supporting surface being recessed relative to the top face, and the supporting surface being centrally positioned in the cells.
4. The kit for playing sudoku according to the preceding claim 3, **characterized in that** the cells comprise a groove between the edge of the cells and the circumference of the supporting surface, the groove extending around the entire supporting surface, and the groove being recessed relative to the supporting surface.
5. The kit for playing sudoku according to claim 4, **characterized in that** the groove around the supporting surface comprises four sub-grooves, with at least one sub-groove being deeper than the other sub-grooves.
6. The kit for playing sudoku according to any of the previous claims 1-5, **characterized in that** the cavity comprises L-shaped sliding elements, which sliding elements have a top and a bottom, wherein the top of the sliding elements is preferably level with the bottom face.
7. The kit for playing sudoku according to any of the previous claims 1-6, **characterized in that** the game board further comprises a polygonal lid with one or more side faces which are connected with at least one side to the lid, the lid being adapted to fit on the top face of the game board with the side faces fitting over the side faces of the game board.

8. The kit for playing sudoku according to any of the previous claims 1-7, **characterized in that** the bottom face comprises at least two support elements, preferably two raised side faces of the game board relative to the bottom face, the side faces being parallel to each other. 5

9. The kit for playing sudoku according to any of the previous claims 1-8, **characterized in that** the game board is made of a thermoplastic material, preferably ABS. 10

10. The kit for playing sudoku according to any of the previous claims 1-9, **characterized in that** the game board comprises a length between 20 cm and 40 cm, preferably between 25 cm and 35 cm, and a width between 20 cm and 40 cm, preferably between 25 cm and 35 cm. 15

11. The kit for playing sudoku according to any of the previous claims 3-10, **characterized in that** the sub-grooves surrounding the supporting surface comprise a width between 5 mm and 12 mm, and a depth between 2.0 mm and 2.5 mm, the deeper sub-groove comprising a depth between 1.5 times and 2 times the depth of the other sub-grooves. 20
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12. The kit for playing sudoku according to any of the previous claims 1-11, **characterized in that** the cavity in the bottom face has a width approximately equal to the height of a sub-grid and a length approximately equal to the width of the game board. 30

13. The kit for playing sudoku according to any of the previous claims 1-12, **characterized in that** the sudoku tiles can be detachably fixed in the cells of the grid. 35

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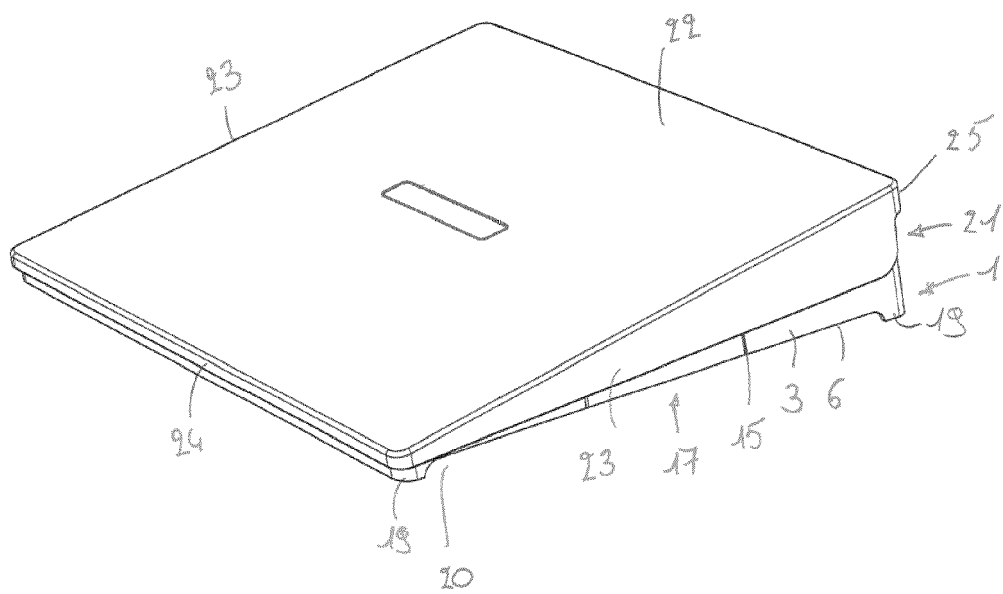


Fig. 1

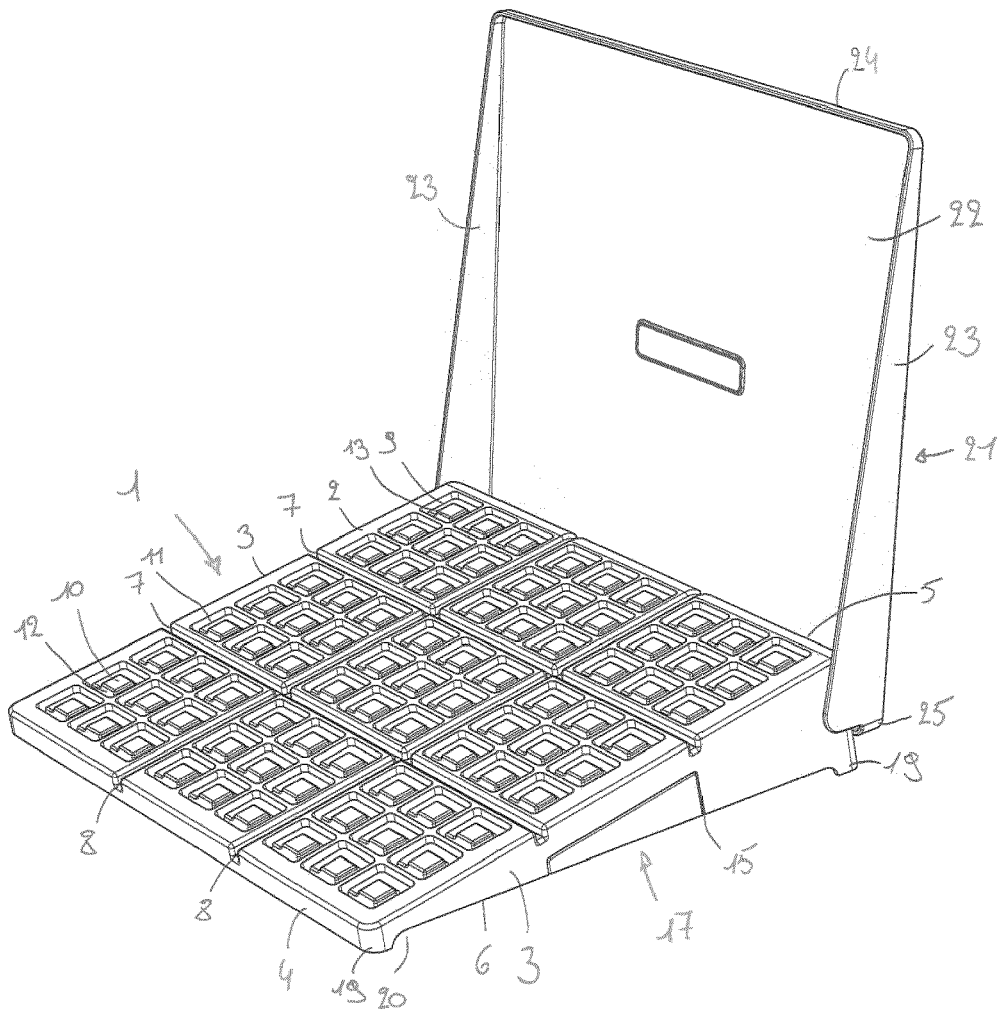


Fig. 2

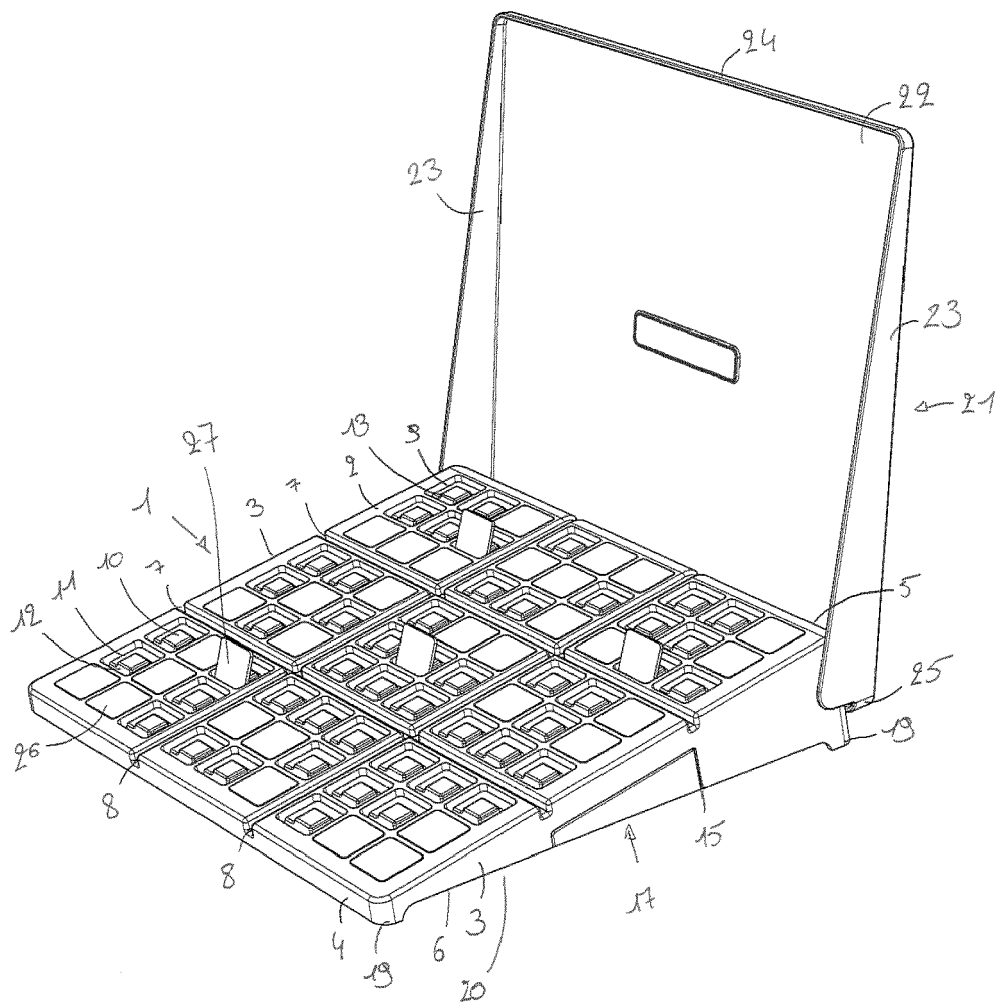


Fig. 3

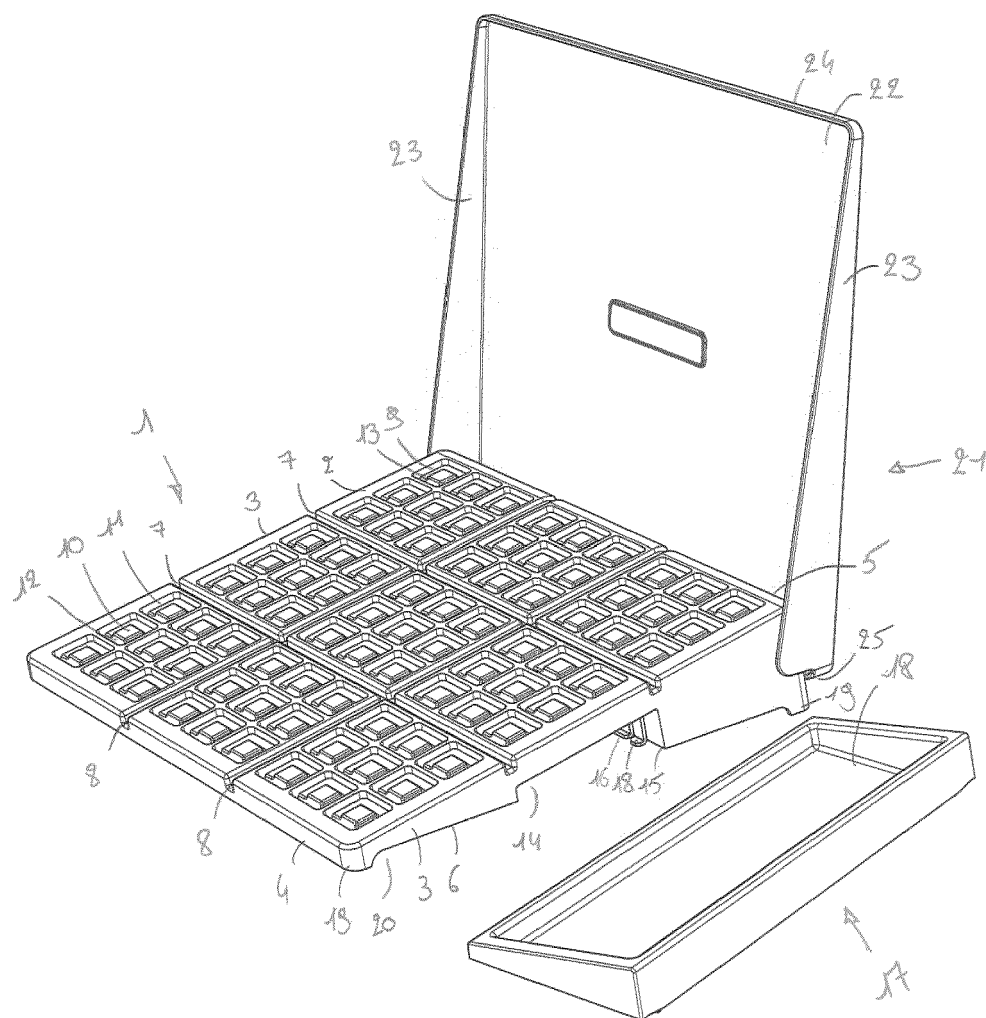


Fig. 4

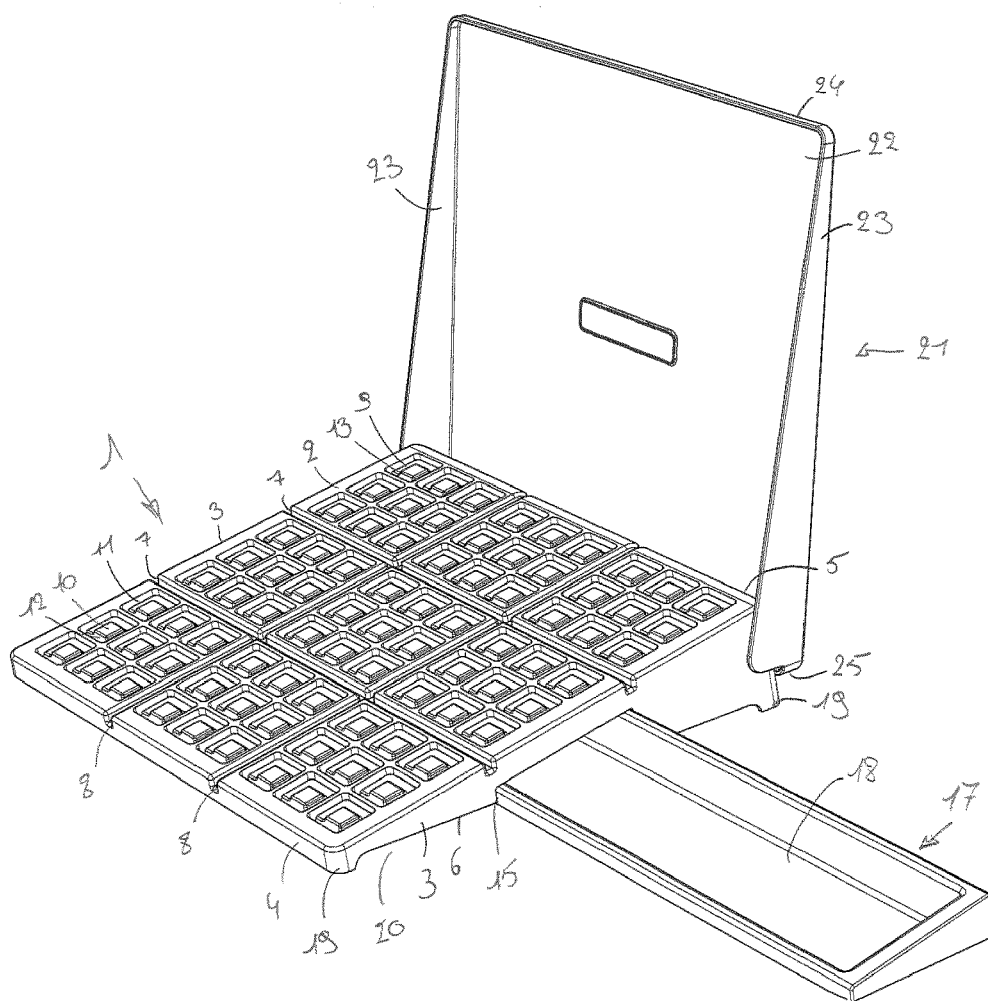


Fig. 5

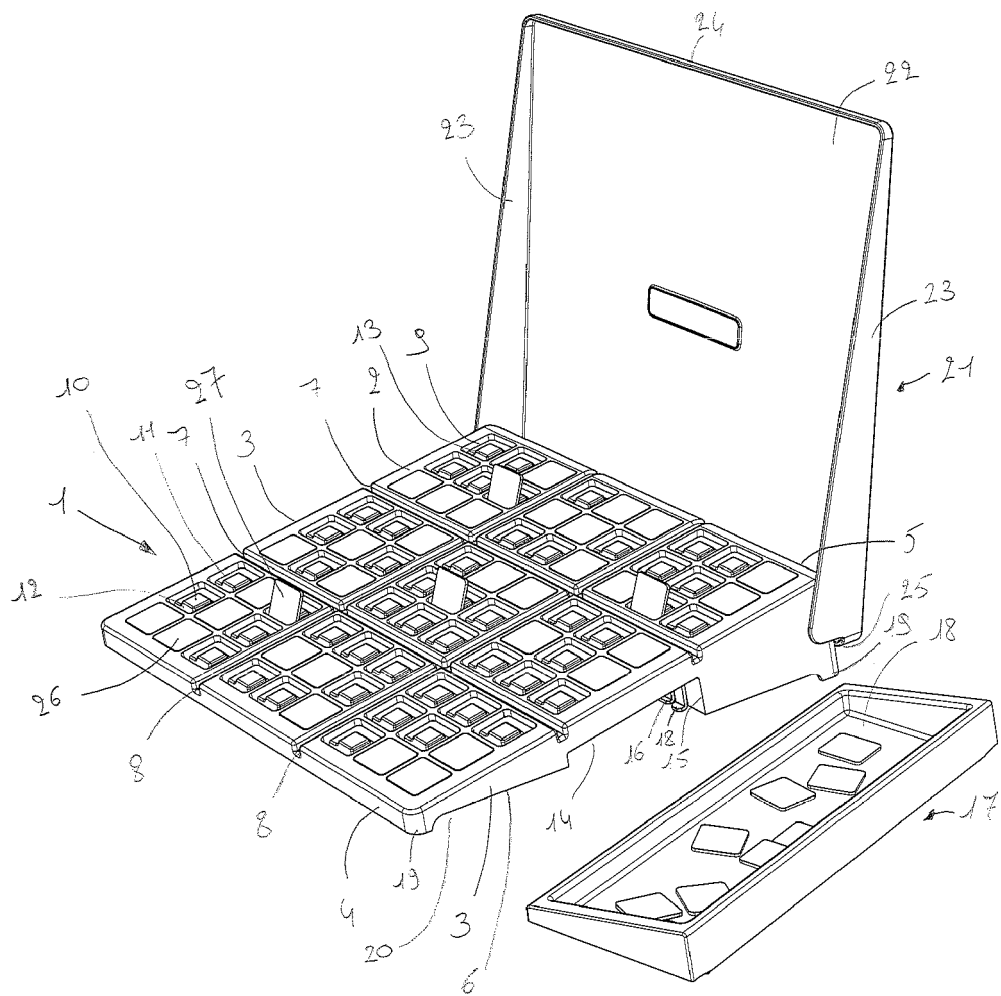


Fig. 6

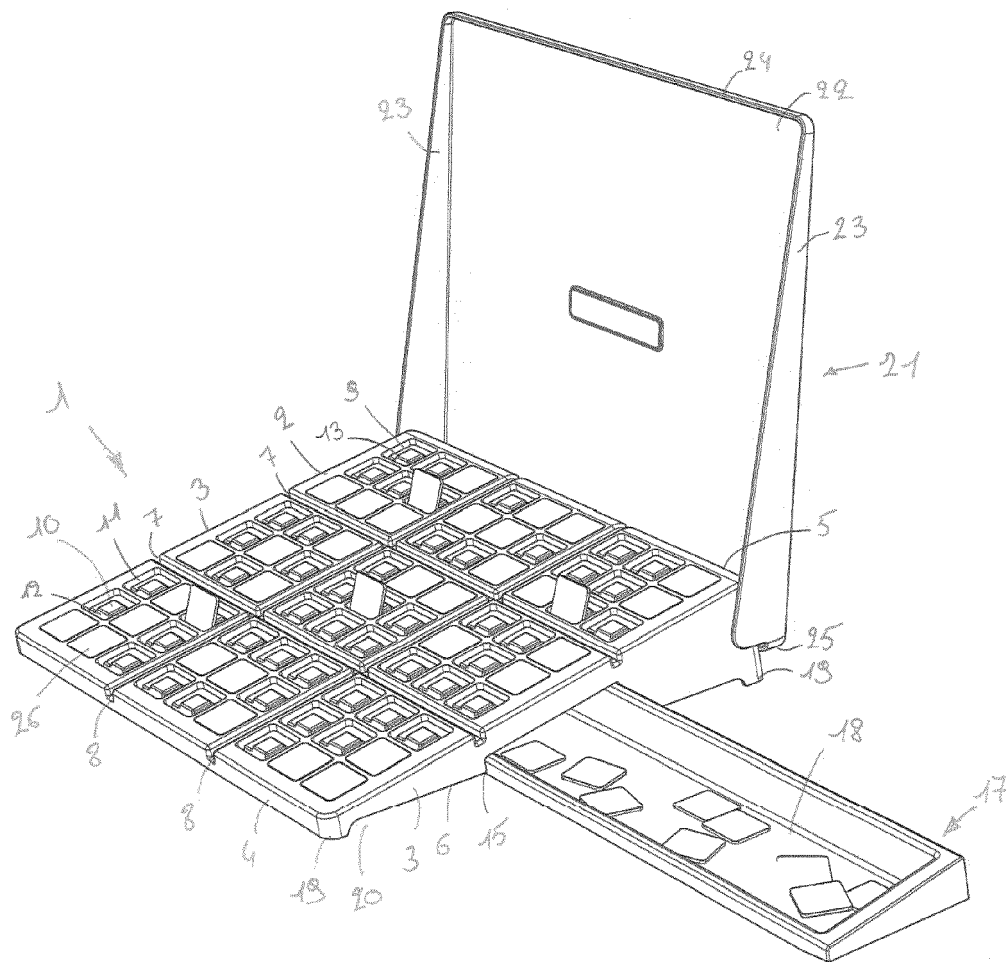


Fig. 7



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Application Number

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Y	* paragraphs [0014] - [0021]; figures *	1, 3, 6, 7	ADD. A63F11/00
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Y	US 9 937 413 B1 (COMPOUND FUN LLC [US]) 10 April 2018 (2018-04-10) * column 5, line 10 - column 7, line 9; figures *	3	
Y	----- KR 2016 0001936 U (CHOI K S) 7 June 2016 (2016-06-07) * paragraphs [0029], [0030]; figures 1, 2 *	1	
Y	----- US 5 490 675 A (PERSIDSKY ANDRE M [US] ET AL) 13 February 1996 (1996-02-13) * column 8, lines 13-42; figures 16B, 17 *	1, 6	
Y	----- US 2021/001208 A1 (MARTINEZ JOHN A [US]) 7 January 2021 (2021-01-07) * Figure 1-2 and corresponding passages in the description *	7	TECHNICAL FIELDS SEARCHED (IPC) A63F
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Place of search Munich		Date of completion of the search 9 September 2022	Examiner Bagarry, Damien
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