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(54) Building plate gaming device

(57) A building plate assembly (10) formed by 216 units (U) comprises of 3 building plates (A, B, G) consisting of 16 units (U); 6 building plates (D, E, H, J, K, L) consisting of 18 units (U) and 3 building plates (C, F, I) consisting of 20 units (U), which the sum of all 12 building plates (A to L) is 216. Each of the building plates (A to L) has four rounded corners and is based on a rectangular region (R), having 3 units (U) for row and 6 units (U) for a column, a total of 18 adjacent units (U). Six predetermined zones (P1 to P6) are defined on the rectangular region (R) for forming concave or convex structures (11, 12), thus each of the building plates is in a different shape (A to L) by such configuration. By assembling the building plates (A to L) on different types of game tray (20), the game device provides different intellectual levels for players of all ages.

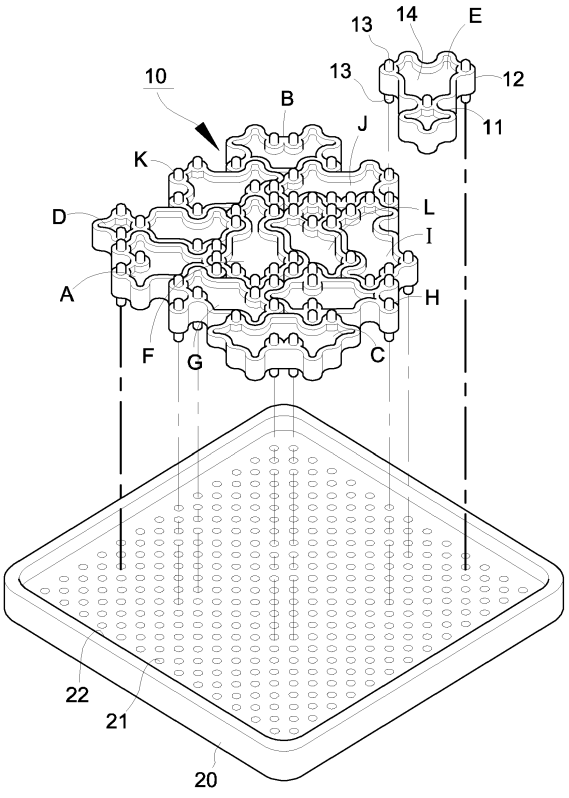

Fig. 5

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to an intellectual building plate assembling game device.

BACKGROUND OF THE INVENTION

[0002] The inventor of the present invention has dedicated into creating intellectual game device for years. Plurality of game devices have been granted with patentability, such as US 6,220,919, entitled "*Assembled Building Block for Forming Various Geometrical Shapes with Corners Having Angles 60 Degrees, 90 Degrees and 120 Degrees".* In the cited reference, applicant discloses a puzzle game, as shown in Figs. 13 and 14, comprises a game tray (50) having 55 round holes (51) forming a 5 X 11 rectangular matrix on the surface. Said game assembly comprises of 12 different building blocks (5A to 5L), each thereof is formed by 3 to 5 units. The sum of units for all 12 building blocks (5A to 5L) is 55 units, perfectly to cover all 55 round holes (51) on the game tray (50).

[0003] Said cited puzzle game, as disclosed above, the matrix having 5 X-axes and 11 Y-axes; intervals between two round holes (51) of each X-axis and Y-axis are equal; and each X-axis is perpendicular to each Y-axis. Besides, edges of game tray (50) and each building block (5A to 5 L) are formed by straight lines and perpendicular angle. A user usually arranges assembly blocks to form the border then to complete the puzzle and since our brain has better perception for objects with right angle, it is easier to arrange assembly units (5A to 5L) on said game tray (50) with above formation. It may entertain the beginner; however, for most advanced player or challenge lovers, it soon loses its attraction. Therefore, to design a more challenging building block puzzle has become the primary object of the present invention.

SUMMARY OF THE INVENTION

[0004] The present invention relates to an intellectual game device, more specifically, a building plate assembly (10) that consists of 216 units (U). Said building plate assembly (10) comprises of 3 building plates which consisting of 16 adjacent units (U); 6 building plates which consisting of 18 adjacent units (U) and 3 building plates which consisting of 20 adjacent units (U) with the sum of all 12 building plates (A to L) is 216. Each of the building plates (A to L) is in a different shape by having pluralities of concave and convex portions (11, 12) provided at edge thereof. The concave and convex portions (11, 12) of each building plate can engage and interlock with convex and concave portions (12, 11) of others building plates, or convex and concave edges (23, 24) disposed at 4 borders of a concave platform (21) of a game tray (20). All 12 building plates (A to L) are fixed onto the concave platform (22) by having pluralities of projected junctures (13), disposed at a top and bottom side of the building plate, coupling with pluralities of positioning slots (21), provided at surface of the concave platform (22).

BRIEF DESCRIPTION OF DRAWINGS

[0005]

Fig. 1A shows all 12 building plates of the present invention.
Fig. 1B illustrates a basic rectangular region (R) of each building plate.
Fig. 2A is a schematic view showing the region (R) and six zones (P1 to P6) for each building plate and illustrating the placement of concave and convex portions (11, 12) of building plate (A).
Fig. 2B is a schematic view of building plate (B).
Fig. 2C is a schematic view of building plate (C).
Fig. 2D is a schematic view of building plate (D).
Fig. 2E is a schematic view of building plate (E).
Fig. 2F is a schematic view of building plate (F).
Fig. 2G is a schematic view of building plate (G).
Fig. 2H is a schematic view of building plate (H).
Fig. 2I is a schematic view of building plate (I).
Fig. 2J is a schematic view of building plate (J).
Fig. 2K is a schematic view of building plate (K).
Fig. 2L is a schematic view of building plate (L).
Fig. 3A is a schematic view of a first example illustrating all 12 building plates (A to L) assembled and interlocked therewith.
Fig. 3B is a schematic view of a second example illustrating all 12 building plates (A to L) assembled and interlocked

therewith.

Fig. 3C is a schematic view of a third example illustrating all 12 building plates (A to L) assembled and interlocked therewith.

Fig. 4 shows all 12 building plates (A to L) of the present invention provided with projected junctures on the top and bottom sides thereof.

Fig. 5 is a schematic view showing all 12 building plates (A to L) arranged on a first type game tray.

Fig. 6 is a cross sectional view of a building plate showing coupling of the building plate to the first type game tray.

Fig. 7A is a schematic view showing a sample of arrangement on a second type game tray.

Fig. 7B is a schematic view showing another sample of arrangement on a second type game tray.

Fig. 8A is a schematic view showing a third type game tray in a deploying mode.

Fig. 8B is a schematic view showing all 12 building plates placed in a third type game tray.

Fig. 9A is a schematic view showing a fourth type game tray in a deploying mode.

Fig. 9B is a schematic view showing all 12 building plates placed in the fourth type game tray.

Fig. 9C is a schematic view showing pluralities of additional building plates (N) placed in the fourth type game tray.

Fig. 9D is a schematic view showing all 12 building plates and additional building plates (N) arranged in the fourth type game tray.

Fig. 10 is a schematic view of a fifth type game tray.

Fig. 11A is a schematic view of a sixth type game tray.

Fig. 11B is a schematic view showing all 12 building plates arranged in the sixth type game tray.

Fig. 12A is a schematic view of a seventh type game tray.

Fig. 12B is a schematic view showing all 12 building plates arranged in the seventh type game tray.

Fig. 13 is a schematic view showing a game tray of the prior art.

Fig. 14 is a schematic view showing 12 building plates disclosed in the prior art arranged in the game tray of Fig. 13.

DETAIL DESCRIPTION OF PREFERRED EMBODIMENTS

[0006] Description of the present invention is described in detail according to the appended drawings hereinafter.

[0007] As shown in Figs. 1A, 1B and 2A o 2L, a building plates assembly (10) comprises of 12 building plates (A to L) in different shapes with a total number of 216 units (U). Each of building plates (A to L) consists of a plurality of units (U) and said unit (U) is a basic element for measuring each building plate. Each unit (U) disclosed hereinafter is a rectangle block (RB) having equal size. Fig. 2A illustrates a basic shape for each building shape. Each of the building plates is based on a rectangular that consists of 3 units (U) for a row and 6 units (U) for a column, a total of 18 adjacent units (U). Referring to Fig. 1B, a rectangular region (R) has six zones (P1 to P6) for providing shape variations for each building plates. Each zone includes a unit from the rectangular region (R) and an extra unit extended therefrom. Alteration of each building plate is provided in said sixth zones (P1 to P6) to create a unique shape for each. Each zone is positioned as following:

A first zone (P1) includes the first unit of column 2 and a unit extended upward.
A second zone (P2) includes the second unit of column 1 and a unit extended left.
A third zone (P3) includes the second unit of column 3 and a unit extended right.
A forth zone (P4) includes the fifth unit of column 1 and a unit extended left.
A fifth zone (P5) includes the fifth unit of column 3 and a unit extended right.
A sixth zone (P6) includes the sixth unit of column 2 and a unit extended downward.

[0008] Pluralities of concave portions (11) and convex portions (12) are provided on said six zones (P1 to P6) for forming said 12 building plates (A to L). A concave portion (11) is a rounded concavity which the size is equivalent to a unit and a convex portion (12) is a rounded projection which the size is also equivalent to a unit. The shape of rounded projection corresponds with the shape of rounded concavity to interlock building plates.

[0009] Fig. 2A showing the building plate (A) has four rounded corners and the concave portion (11) provided at zones (P1, P2, P3, P6) and the convex portion (12) provided at zones (P4, P5) with a total 16 units (U).

[0010] Fig. 2B showing the building plate (B) has four rounded corners the concave portion (11) provided at zones (P1, P2, P4, P6) and the convex portion (12) provided at zones (P3, P5) with a total 16 units (U).

[0011] Fig. 2C showing the building plate (C) has four rounded corners and the concave portion (11) is provided at zones (P3, P5) and the convex portion (12) is provided at zones (P1, P2, P4, P6) with a total of 20 units (U).

[0012] Fig. 2D showing the building plate (D) has four rounded corners and the concave portion (11) provided at zones (P3, P4, P5) and the convex portion (12) provided at zones (P1, P2, P6) with a total of 18 units (U).

[0013] Fig. 2E showing the building plate (E) has four rounded corners the concave portion (11) provided at zones (P2, P3, P6) and the convex portion (12) provided at zones (P1, P4, P5) with a total of 18 units (U).

[0014] Fig. 2F showing the building plate (F) has four rounded corners the concave portion (11) provided at zones (P2, P3) and the convex portion (12) provided at zones (P1, P4, P5, P6) with a total of 20 units (U).

[0015] Fig. 2G showing the building plate (G) has four rounded corners the concave portion (11) provided at zones (P1, P3, P4, P6) and the convex portion (12) provided at zones (P2, P5) with a total of 16 units (U).

[0016] Fig. 2H showing the building plate (H) has four rounded corners the concave portion (11) provided at zones (P1, P2, P3) and the convex portion (12) provided at zones (P4, P5, P6) with a total of 18 units (U).

[0017] Fig. 2I showing the building plate (I) has four rounded corners the concave portion (11) provided at zones (P2, P5) and the convex portion (12) provided at zones (P1, P3, P4, P6) with a total of 20 units (U).

[0018] Fig. 2J showing the building plate (J) has four rounded corners the concave portion (11) provided at zones (P2, P4, P6) and the convex portion (12) provided at zones (P1, P3, P5) with a total of 18 units (U).

[0019] Fig. 2K showing the building plate (K) has four rounded corners the concave portion (11) provided at zones (P1, P3, P6) and the convex portion (12) provided at zones (P2, P4, P5) with a total of 18 units (U).

[0020] Fig. 2L showing the building plate (L) has four rounded corners the concave portion (11) provided at zones (P2, P5, P6) and the convex portion (12) provided at zones (P1, P3, P4) with a total of 18 units (U).

[0021] The concave and convex portions (11, 12) and total units (U) of each building plate are summarized and illustrated in Table 1

Table 1

Building Plate	Concave Zones	Convex Zones	Sum of Units
A	P1, P2, P3, P6	P4, P5	16
B	P1, P2, P4, P6	P3, P5	16
C	P3, P5	P1, P2, P4, P6	20
D	P3, P4, P5	P1, P2, P6	18
E	P2, P3, P6	P1, P4, P5	18
F	P2, P3	P1, P4, P5, P6	20
G	P1, P3, P4, P6	P2, P5	16
H	P1, P2, P3	P4, P5, P6	18
I	P2, P5	P1, P3, P4, P6	20
J	P2, P4, P6	P1, P3, P5	18
K	P1, P3, P6	P2, P4, P5	18
L	P2, P5, P6	P1, P3, P4	18
Total 12 plates			Total 216 units

[0022] As shown in Fig. 1 and Table 1, all 12 building plates (A to L) of the present invention can be categorized in three groups according to the numbers of units (U) in which each building plate is formed with. Building plates (A, B, G) are classified as a group 1 (10a), in which all are formed with 16 units (U). Building plates (C, F, I) are classified as a group 2 (10b), in which all are formed with 20 units (U). Building plates (D, E, H, J, K, L) are classified as group 3 (10c), in which all are formed with 18 units (U). By referring to Table 2, said groups 1, 2 and 3 (10a, 10b, 10c) will be integrated into the building plate assembly (10) with 12 building blocks (A to L) and the sum of 216 units (U).

Table 2

	Group	Building plates	No. of units
Building-plates-assembly (10)	Group 1 (10a)	A,B,G	16
	Group 2 (10b)	C, F, I	20
	Group 3 (10c)	D, E, H, J, K, L	18

Table 3

Building plates	No. of concave (11)	No. of convex (12)
A,B,G	4	2
C, F, I	2	4
D, E, H, J, K, L	3	3

[0023] Numbers of concave and convex portions (11, 12) of building plates categorized into one group are also the same. As shown in Table 3, building plates (A, B, G) which are classified as group 1 (10a) comprises of 4 concave portions (11) and 2 convex portions (12) respectively. Building plates (C, F, I) which are classified as group 2 (10b) comprises of 2 concave portions (11) and 4 convex portions (12) respectively. For building plates (D, E, H, J, K, L) of group 3 (10c), each thereof comprises of 3 concave portions (11) and 3 convex portions (12).

[0024] By comparing the numbers of units (U) of said groups, it can be known that building plates of group 1 (10a) have the least units (U), thus the size thereof should be the smallest while building plates of group 2 (10b) should have the largest size as each is formed with 20 units (U). When arranging building plates in a limited space, the size thereof determine the difficulty of the game. In the present invention, by arranging group with larger size first, the game will be solved much easier than arranging primarily with group having smaller size.

[0025] The concept of using rounded or arc shape for concave and convex portions (11, 12) and four corners is that blunt edges can avoid the player hurt by perpendicular or sharp corners. From aspect of physics, the arc or structure supports more weight which prevents that corner or convex portion (12) of the building plate to be broken off by applying excess force during the game or dropping on the ground.

[0026] Figs. 3A-3C illustrate three examples of symmetrical figures arranged by interlocking the concave portion (11) of a building plate with the convex portion (12) of another. The 12 building plates (A to L) can be played as tangram to formed pluralities shapes and since the edges and corners of each building plate is rounded, it brings more challenge for younger player to recognize the shape than the traditional tangram.

[0027] As shown in Figs. 4, 5 and 6, pluralities of projected juncture (13) are provided at the top and bottom surface of each building plate respectively for engaging and affixing with pluralities of positioning slots (21) disposed on the game tray (20) securely. The juncture (13) is preferably manufactured in a convex semi-spherical shape and disposed about the edge of the building plate. The positioning slot (21) is manufactured in a shape that corresponds with the juncture (13), in the present invention, a concave semi-spherical shape. Both juncture (13) and slot (21) are equivalent to the size of a unit (U).

[0028] The number of junctures (13) provided onto each side of the building plate is preferably determined between 2 and 8. When number of the juncture (13) is less than 2, it lacks its property as fixing mechanism while junctures (13) exceeds 9, it may delay and make it difficult to arrange the building plate onto the game tray (20). Further, since shapes of building plates are similar, junctures (13) can also be served as a mark to recognize and differ with each other.

[0029] Said positioning slots (21) are provided on a concave platform (22) that is disposed onto the game tray (20) for limiting the number of the slots (21). With smaller size of platform (22) and less number of slots (21), the difficulty and complexity of the game is increased. As shown in Figs. 7A and 7B, the second type game tray (20) comprises of 625 positioning slots (21). Since all 12 building plates (A to L) comprise only 216 units (U), 409 units (U) are left as free space to increase the possible figures that can be arranged by the building plates (A to L). The game tray (20) disclosed in Figs. 7A and 7B is ideally for young players to learn and recognize geometry shapes.

[0030] Since the building plates (A to L) are securely fixed onto the game tray (20) by interlocking the juncture (13) with the slot (21), thus, as shown in Fig. 6, a groove (14) whose depth is preferably deeper than 1 mm, is provided at the top and bottom sides of each building plate respectively for facilitating the removal of the building plate from the game tray (20).

[0031] For advanced player who seeks challenge, the third type game tray (20) as shown in Figs. 8A and 8B is provided to bring the game to a higher level of difficulty. With a hard cover (30) pin jointed with a side of the game tray (20), all building plates (A to L) are well kept and stored inside the game tray (20). The game tray (20) includes 216 positioning slots (21), matching exactly with total units (U) of all 12 building plates (A to L). Without free space as disclosed in Figs. 7A and 7B, possible assembled arrangements are drastically reduced to increase the difficulty of the game. Moreover, pluralities of concave and convex edges (23, 24) are provided along four borders. Unlike the game device disclosed in the cited document having straight lines for the edges, the borders with curvatures limits the pieces of building plates that can be utilized for edges, which also enhance the difficulty to solve the game. An edge has both convex and concave edges (23, 24) disposed at, the game's difficulty is higher than only convex edges (23) or concave edges (24) have been disposed at; however, when each unit of the edge is formed with a convex or concave edges (23, 24), the limitation of building plates can be arranged for the border is reduced. As result, the puzzle is easier to be solved.

[0032] Fig. 9A discloses a fourth type game tray (20) comprising 236 slots (21), and pluralities of concave edge (24) along the borders of the platform (22). As mentioned previously, all 12 building plates consist of 216 units (U), thus 20 units (U) are left as free space. For said space of 20 units (U), pluralities of building plates (M) are disclosed in this embodiment. As shown in Fig. 9A, 10 building plates (M) of 2 units (U) each, are placed on an inner side of the cover (30). The number and unit f building plate (M) can be varied; however, the sum of units (U) of all building plates (M) must equal to 20 units for filling said free space.

[0033] Figs. 9B, 9C and 9D demonstrate a possible gaming method which can involve two or multi-players to participate. The first player solves the game as illustrated in Fig. 9B, then the player removes building plates (A to L) from the game tray (20), left only building plates (M) arranged at the edges of the platform (22) as shown in Fig. 9C and passed the game to the next player. With the borders of the platform (22) consisting of convex and concave edges (23, 24) determined by previous player, the current player must rearrange all building plates (A to L) onto the game tray (20) as shown in Fig. 9D without moving any building plates (M). The player ought to find the exactly arrangement of previous player has used or find another solution for solving the game. The time that each player has spent can be used for ranking and to determine level of each player.

[0034] Fig. 10 illustrates another embodiment of the present invention wherein a building plate (N) is fastened onto a square-like fifth type game tray (20) during the manufacture. For solving the game, the player must arrange the building plates (A to L) on the game tray (20) with the building plate (N) served as an obstruction. Fig. 10 discloses a building plate (N) of 9 units (U); however, number and size of the building plate (N) is not limited in the present invention. As number of units for building plate (N) increase, game's difficulty is also raised.

[0035] Figs. 11A and 11B disclose a square-like sixth type game tray (20) having 245 positioning slots (21) and pluralities of concave edge (24) disposed at borders of platform (22). Without building plate (M) or building plate (N), this embodiment is left with 29 slots (21) as free space for the player, suitable for player of intermediate level.

[0036] Figs. 12A and 12B disclose a rhombic seventh type game tray (20) having 248 positioning slots (21) and a convex edge (23) disposed at all four corners of the concave platform (22) respectively. The positioning slots (21) seem to be aligned evenly; however, by turning the game tray (20) 45 degree counter-clockwise, it can be seen that all slots (21) are staggered-arranged into twenty three lines wherein each odd row is a slot (21) less than each odd row. All 12 building plates (A to L) are arranged and inserted with an angle of 45 degree as shown in Fig. 12B. Since the building plate is usually arranged vertically or horizontally, an oblique angle may increase the difficulty and challenge of the game.

Claims

1. A building plate assembly (10) consisting of a total number of 216 units (U) comprises of 12 building plates (A to L) in different shapes, **characterized in that**:

Each building plate consists of a plurality of units (U), wherein each unit (U) represents a block (RB); building plates A, B and C, comprises of 16 adjacent units (U) respectively; building plates D, E, H, J, K, L comprises of 18 adjacent units (U) respectively, and building plates C, F, I comprises of 20 units (U) respectively; a total sum of units (U) for all 12 building plates (A to L) are 216 units (U); each of the building plates (A to L) includes four rounded corners and curved edges based on a rectangular region (R) consisting of 3 units (U) for a row and 6 units (U) for a column, a total of 18 adjacent units (U); the rectangular region (R) having six zones (P1 to P6) predetermined for providing different shapes to each building plates, each zone is a unit (U) extended from said rectangular region (R), wherein:

A first zone (P1) includes a first unit of column 2 and a unit extended upward;
A second zone (P2) includes a second unit of column 1 and a unit extended left;
A third zone (P3) includes a second unit of column 3 and a unit extended right;
A forth zone (P4) includes a fifth unit of column 1 and a unit extended left;
A fifth zone (P5) includes a fifth unit of column 3 and a unit extended right;
A sixth zone (P6) includes a sixth unit of column 2 and a unit extended downward;
A plurality of concave portions (11) and convex portions (12) are provided on said six zones (P1-P6) for forming said 12 building plates (A to L) wherein:
A building plate (A): the concave portion (11) is provided at zones (P1, P2, P3, P6) and the convex portion (12) is provided at zones (P4, P5);
A building plate (B): the concave portion (11) is provided at zones (P1, P2, P4, P6) and the convex portion (12) is provided at zones (P3, P5);
A building plate (C): the concave portion (11) is provided at zones (P3, P5) and the convex portion (12) is provided at zones (P1, P2, P4, P6);

A building plate (D): the concave portion (11) is provided at zones (P3, P4, P5) and the convex portion (12) is provided at zones (P1, P2, P6);
A building plate (E): the concave portion (11) is provided at zones (P2, P3, P6) and the convex portion (12) is provided at zones (P1, P4, P5);
A building plate (F): the concave portion (11) is provided at zones (P2, P3) and the convex portion (12) is provided at zones (P1, P4, P5, P6);
A building plate (G): the concave portion (11) is provided at zones (P1, P3, P4, P6) and the convex portion (12) is provided at zones (P2, P5);
A building plate (H): the concave portion (11) is provided at zones (P1, P2, P3) and the convex portion (12) is provided at zones (P4, P5, P6);
A building plate (I): the concave portion (11) is provided at zones (P2, P5) and the convex portion (12) is provided at zones (P1, P3, P4, P6);
A building plate (J): the concave portion (11) is provided at zones (P2, P4, P6) and the convex portion (12) is provided at zones (P1, P3, P5);
A building plate (K): the concave portion (11) is provided at zones (P1, P3, P6) and the convex portion (12) is provided at zones (P2, P4, P5);
A building plate (L): the concave portion (11) is provided at zones (P2, P5, P6) and the convex portion (12) is provided at zones (P1, P3, P4);
said concave portions (11) and convex portions (12) are provided at building plates (A to L) respectively for interlocking therewith and forming different geometry shapes.

2. A building plate assembly (10) having 216 units as claimed in claim 1, further comprises of a game tray (20) having a concave platform (22) therein for receiving all 12 building plates (A to L).

3. A building plate assembly (10) having 216 units as claimed in claim 2, wherein the platform (22) includes a plurality of convex edges (23) and concave edges (24) for interlocking with the concave portions (11) and convex portions (12) of the building plates respectively.

4. A building plate assembly (10) having 216 units as claimed in claim 2, wherein a plurality of positioning slots (21) having a total number of 216 are provided on a bottom of the platform (22); each positioning slot (21) corresponds with a projected juncture (13) provided on a top and bottom sides of each building plate.

5. A building plate assembly (10) having 216 units as claimed in claim 4, wherein a number of 2 to 8 projected junctures (13) are provided on each building plate.

6. A building plate assembly (10) having 216 units as claimed in claims 1 or 2, wherein a groove (14) is provided at the top and bottom sides of each building plate.

7. A building plate assembly (10) having 216 units as claimed in claim 2, wherein the positioning slots (21) are arranged into a plurality of rows in which each row is staggered arranged respectively with a diagonal angle of 45 degree,

8. A building plate assembly (10) having 216 units as claimed in claims 2 or 4, wherein a building plate (N), formed by at least one unit (U), is attached onto the platform (22).

9. A building plate assembly (10) having 216 units as claimed in claims 2 or 4, wherein a plurality of building plates (M), each thereof formed by at least one unit (U), are provided and allowed to be arranged in the platform (22).

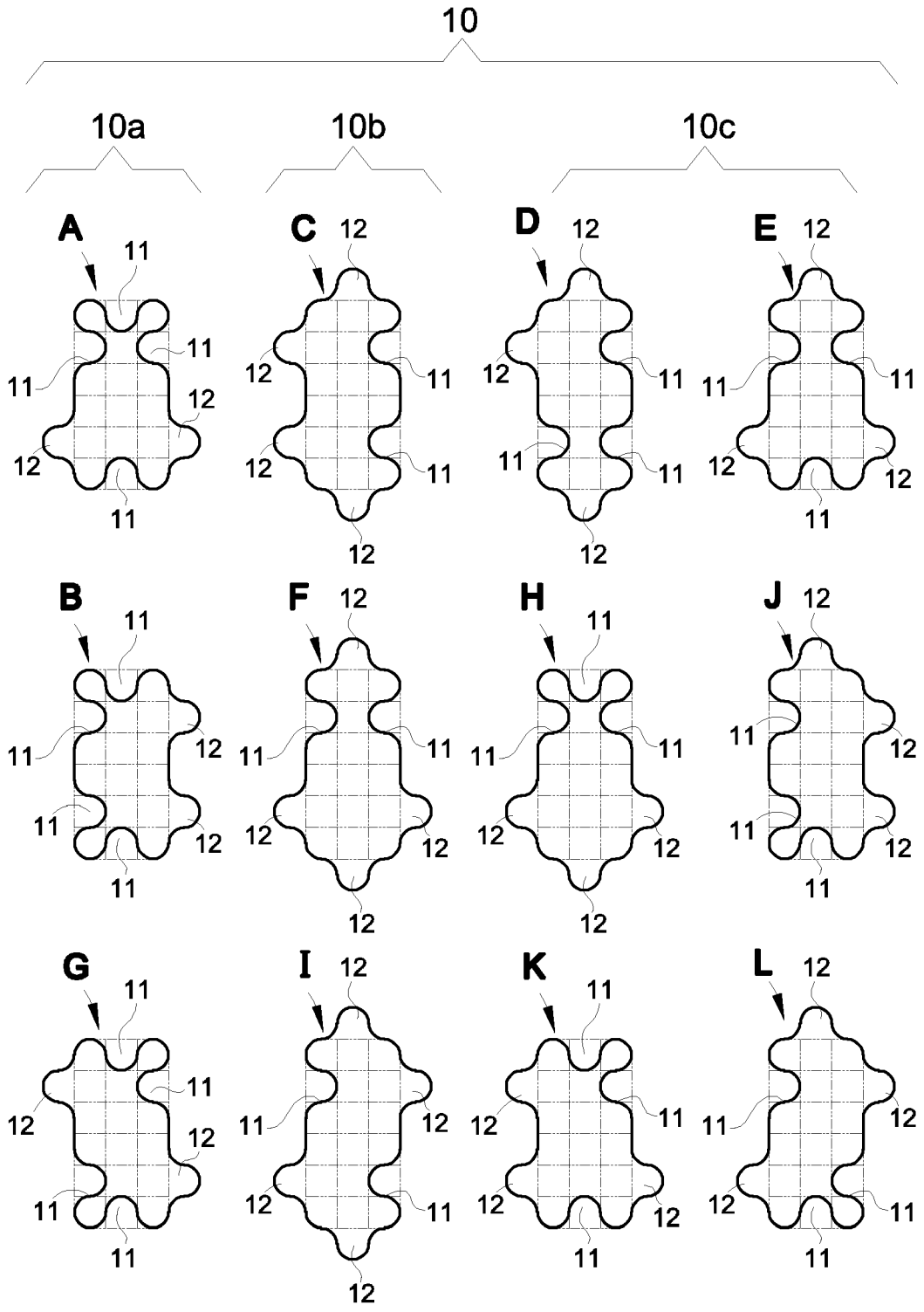


Fig. 1A

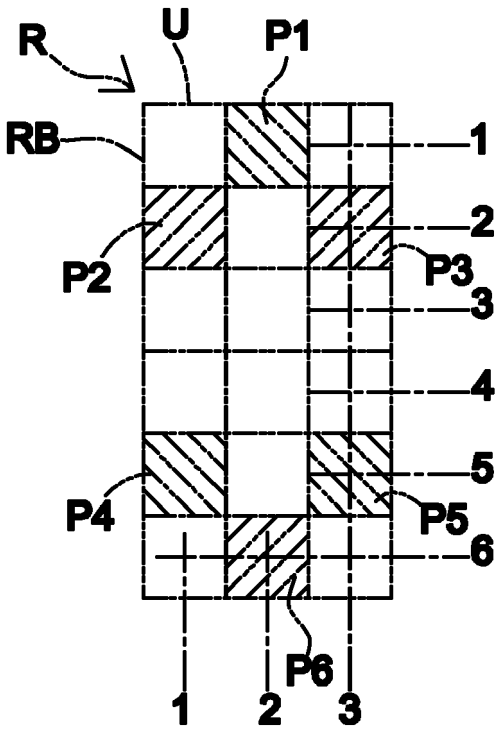


Fig. 1B

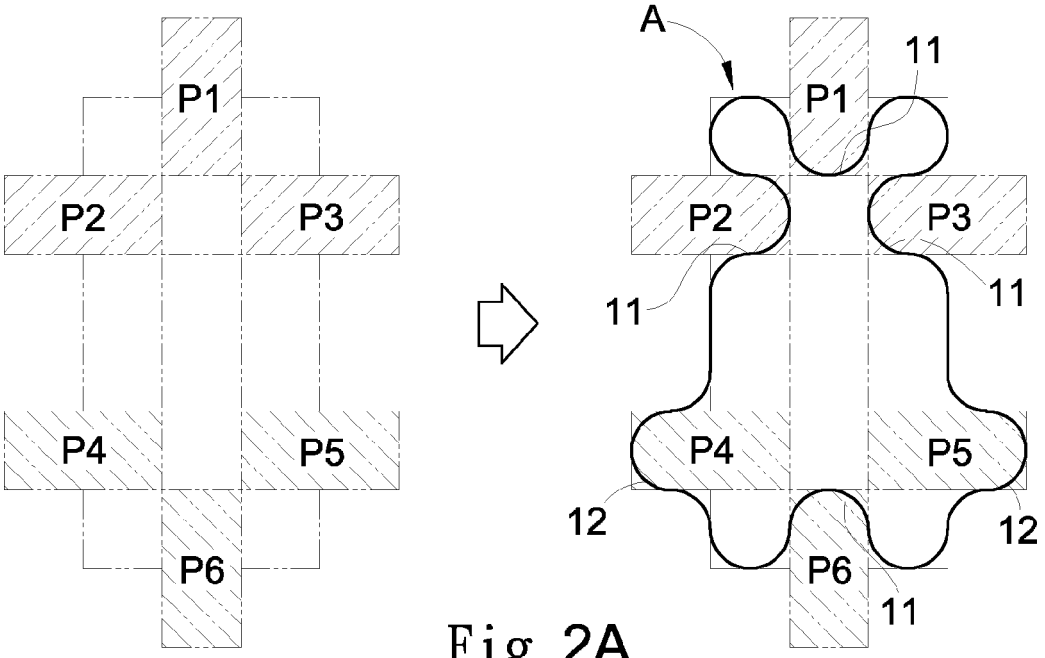


Fig. 2A

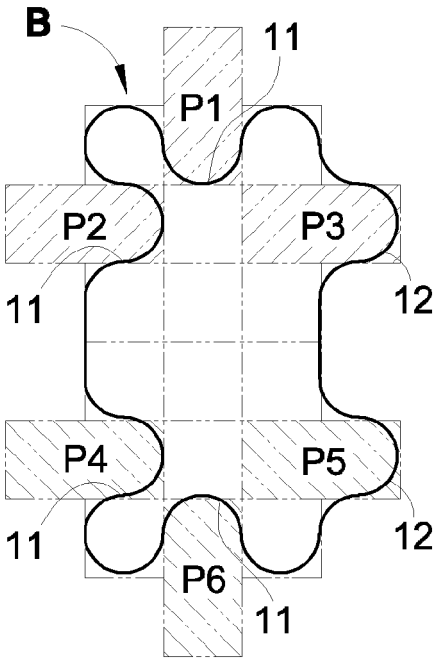


Fig. 2B

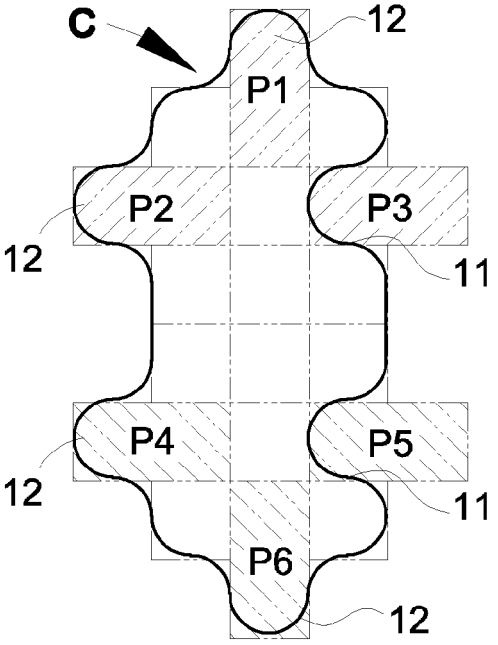


Fig. 2C

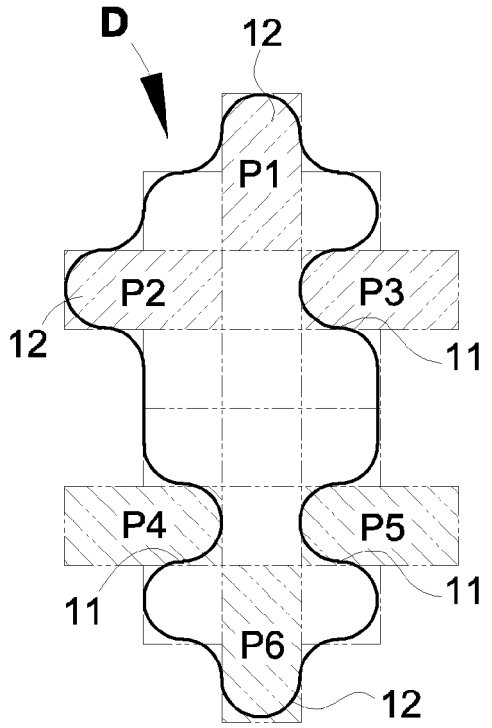
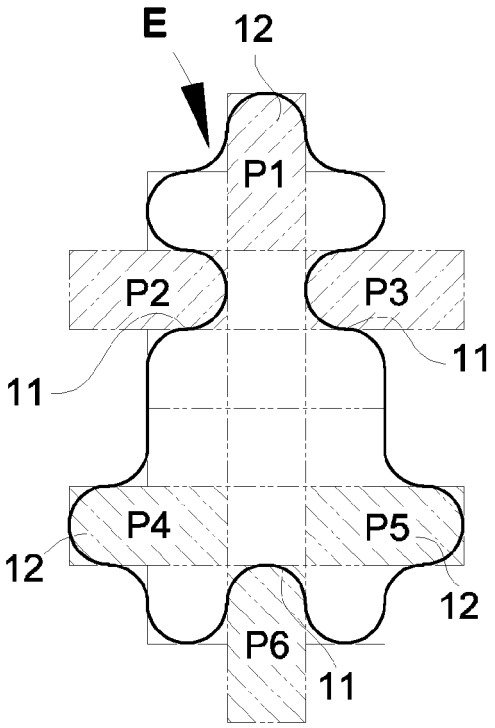


Fig. 2D



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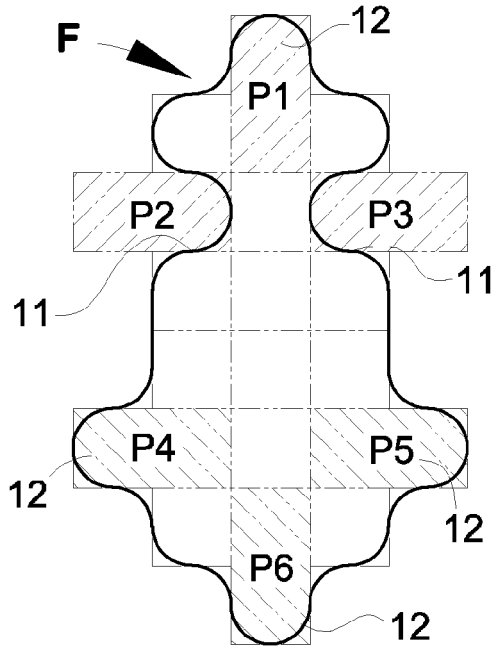

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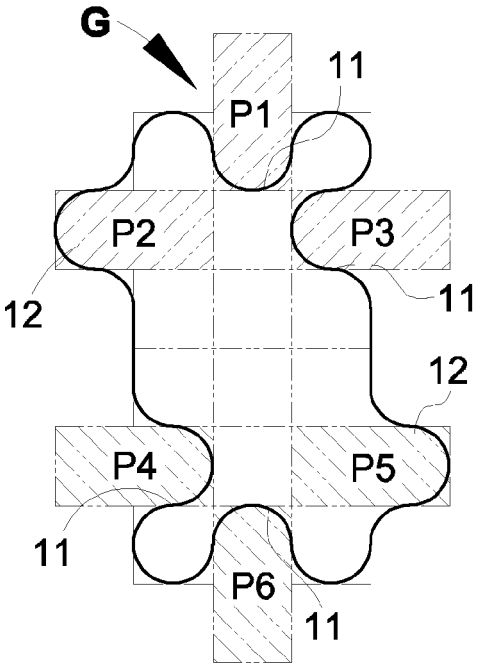

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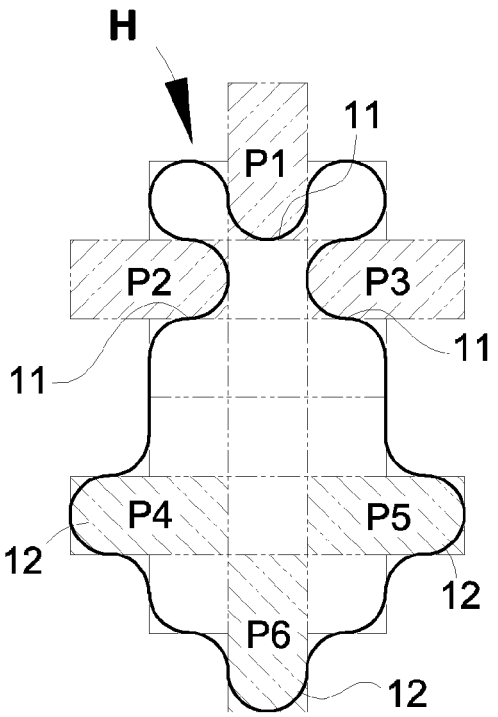

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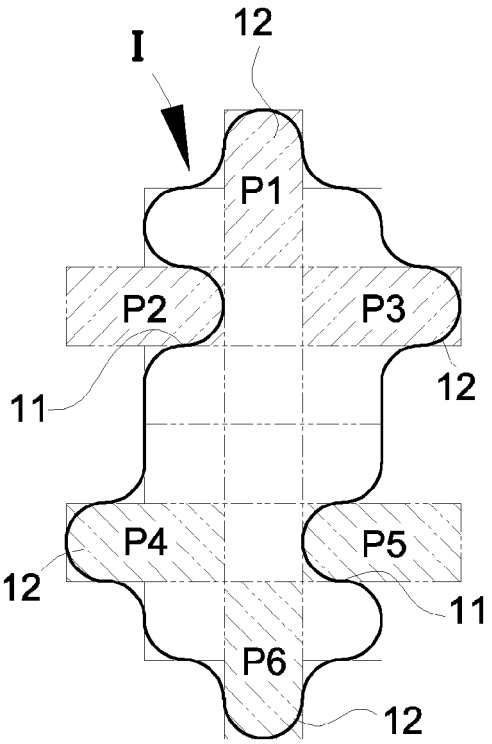
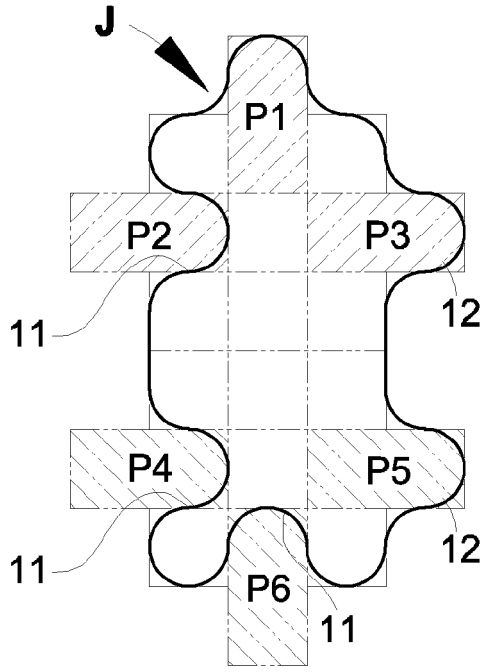


Fig. 2I



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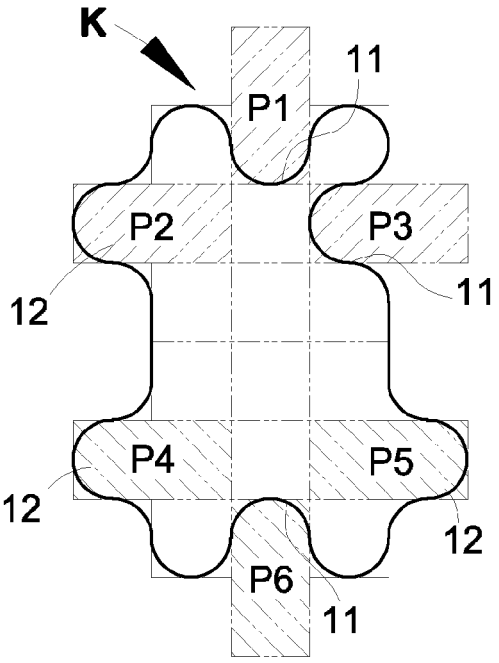

Fig. 2K

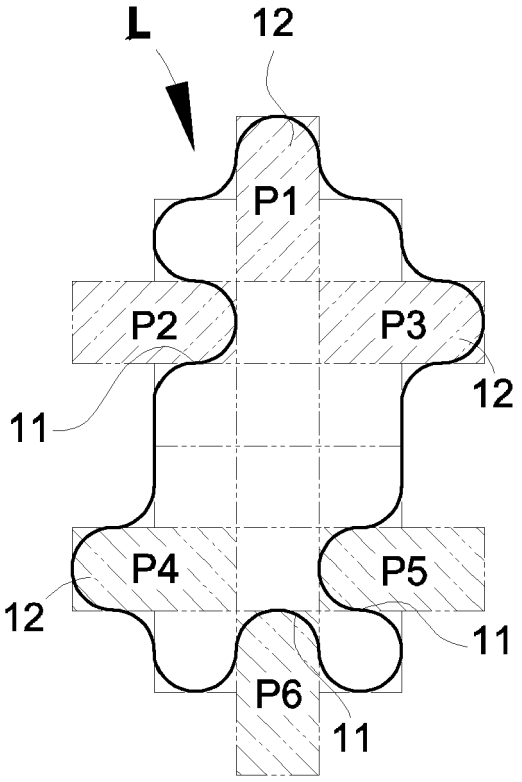

Fig. 2L

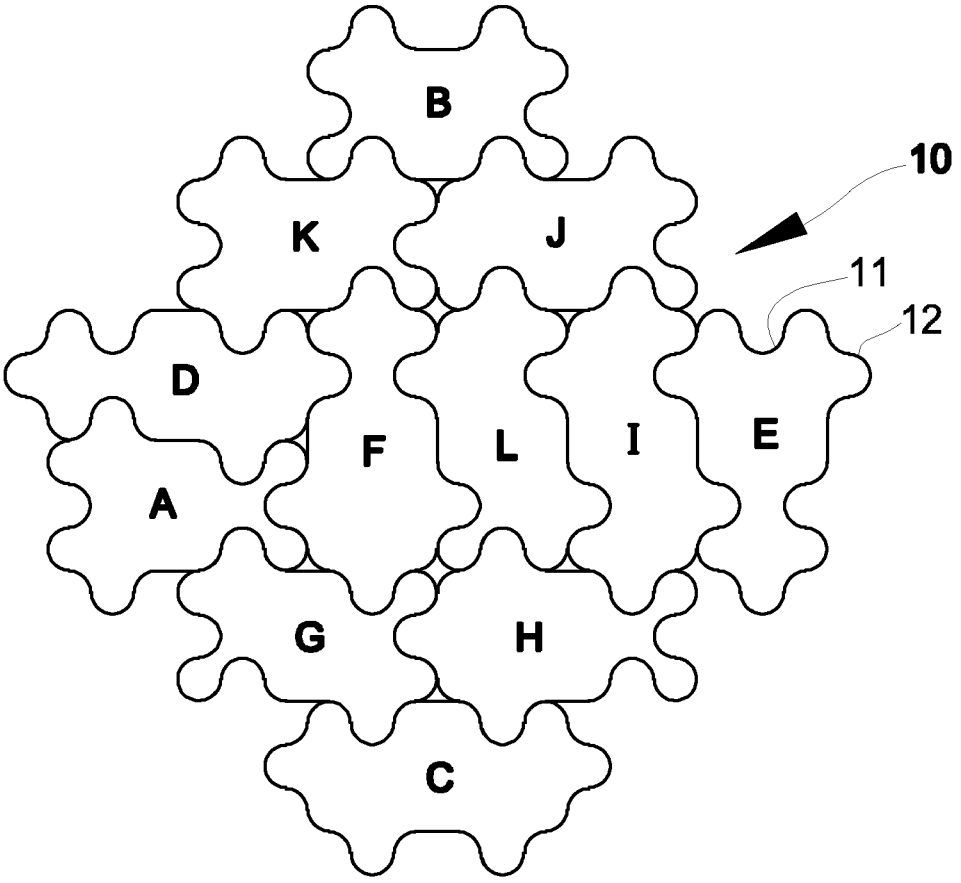

Fig. 3A

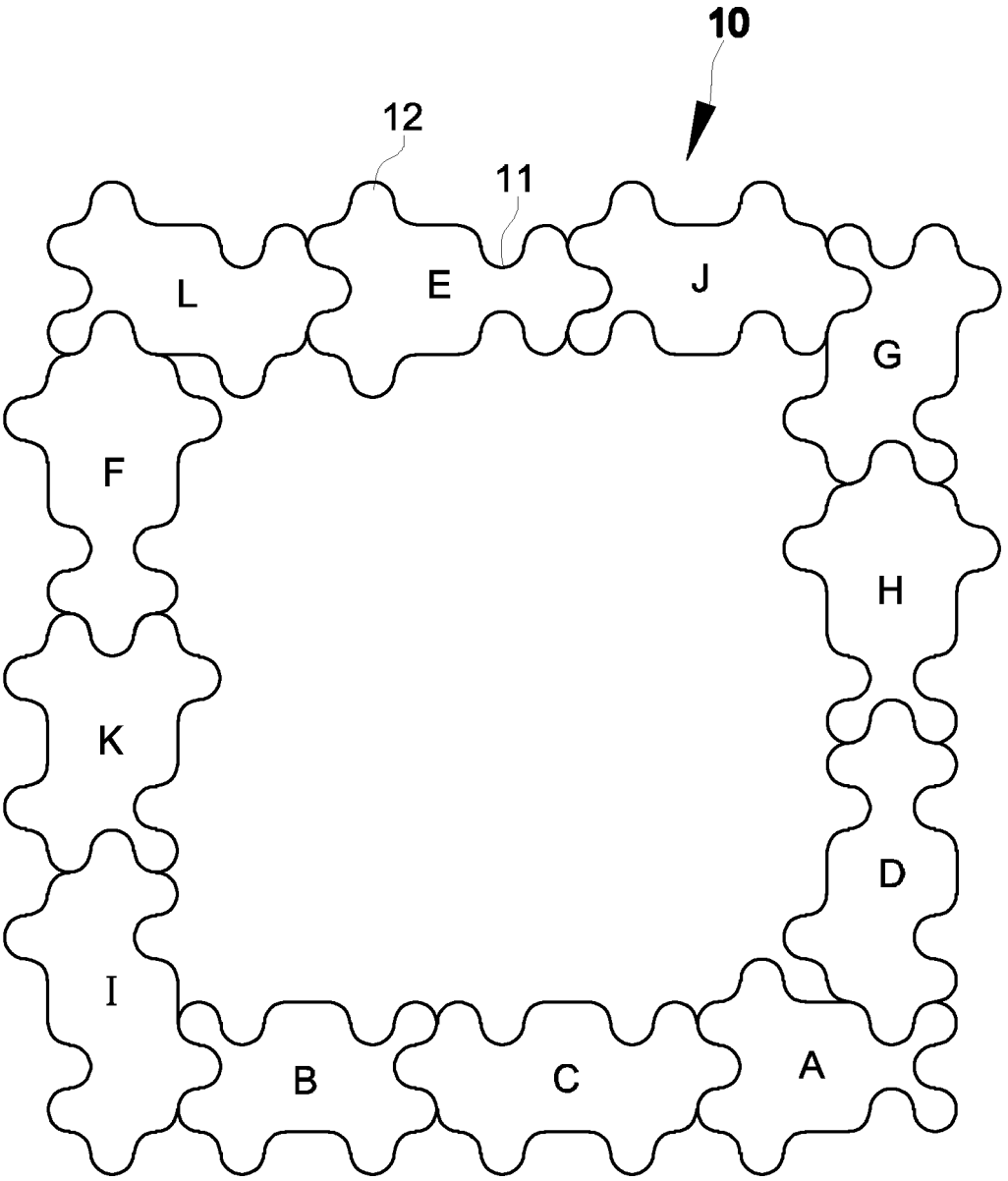

Fig. 3B

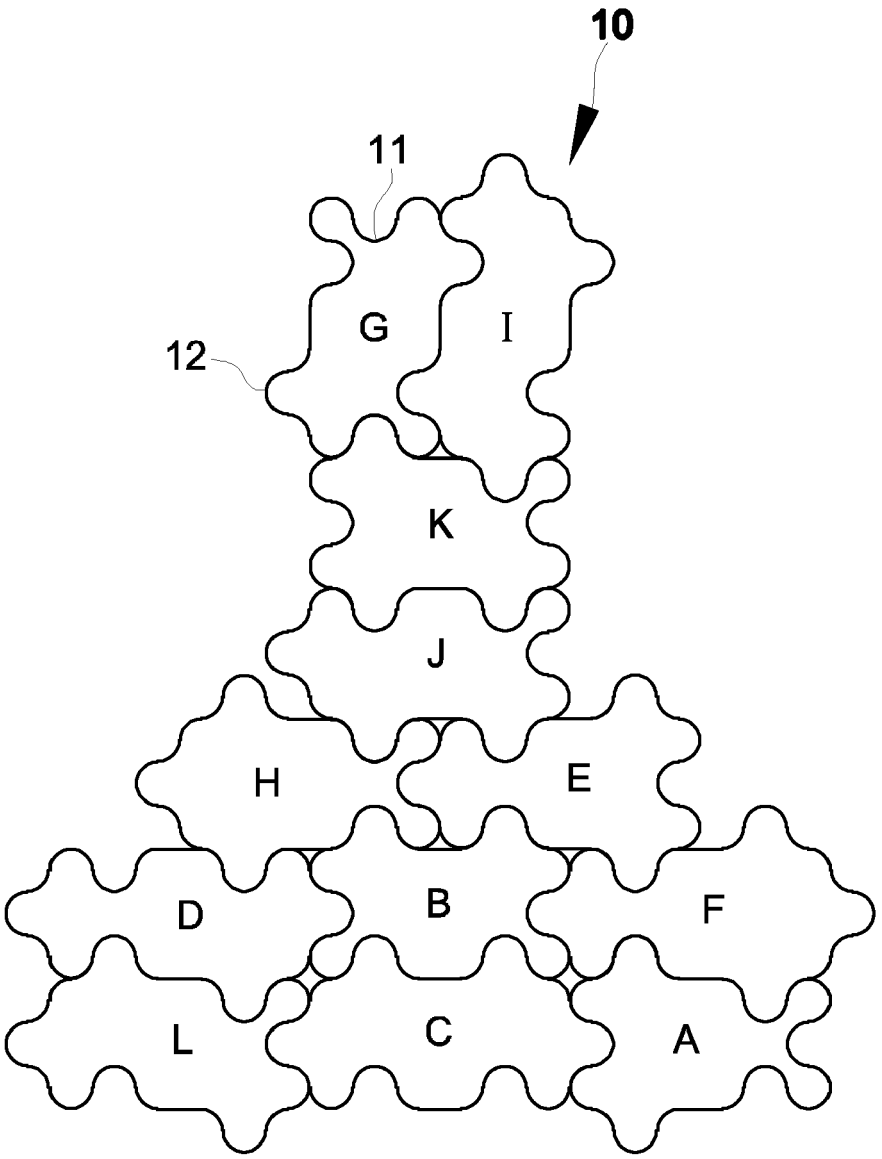

Fig. 3C

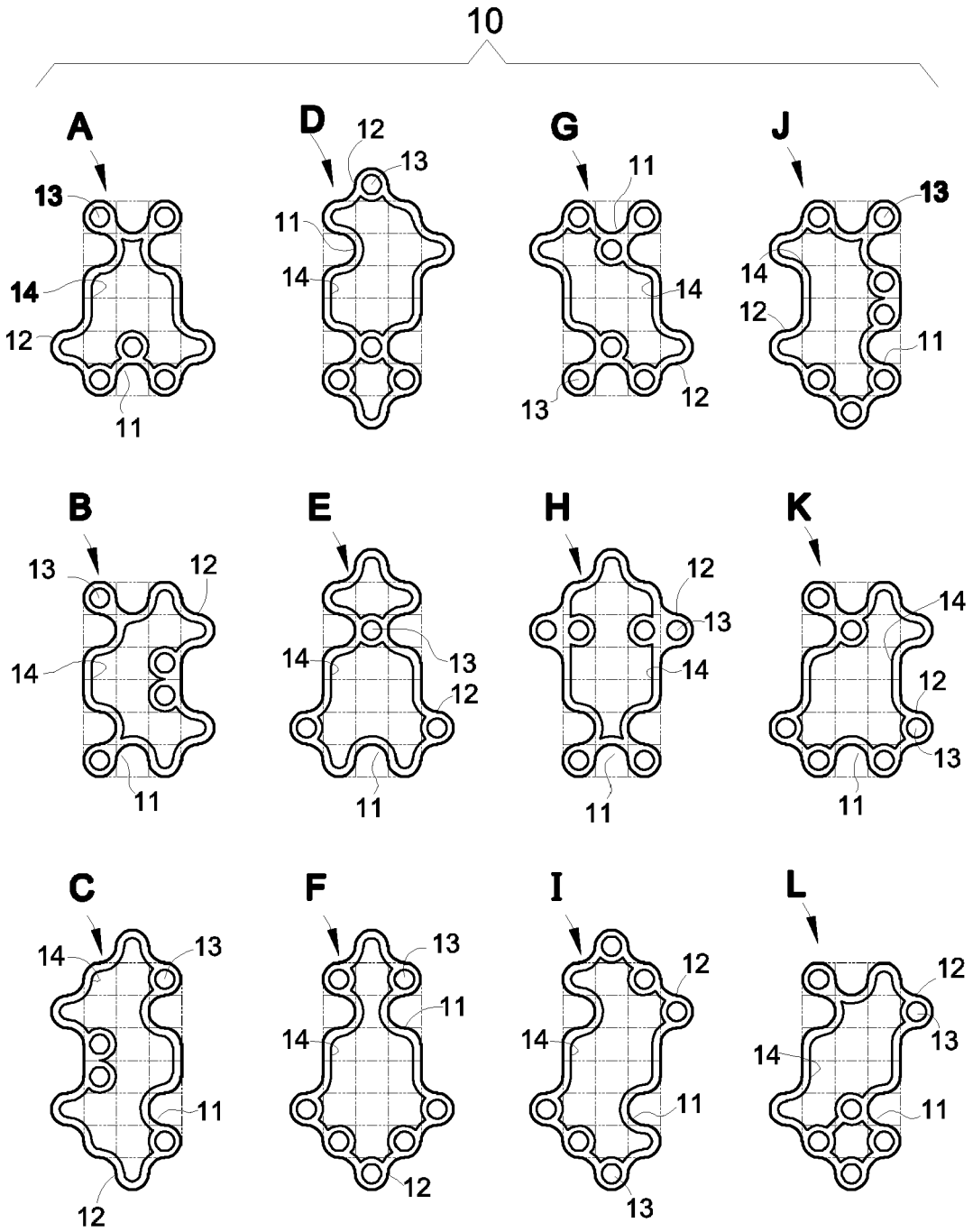
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Fig. 4

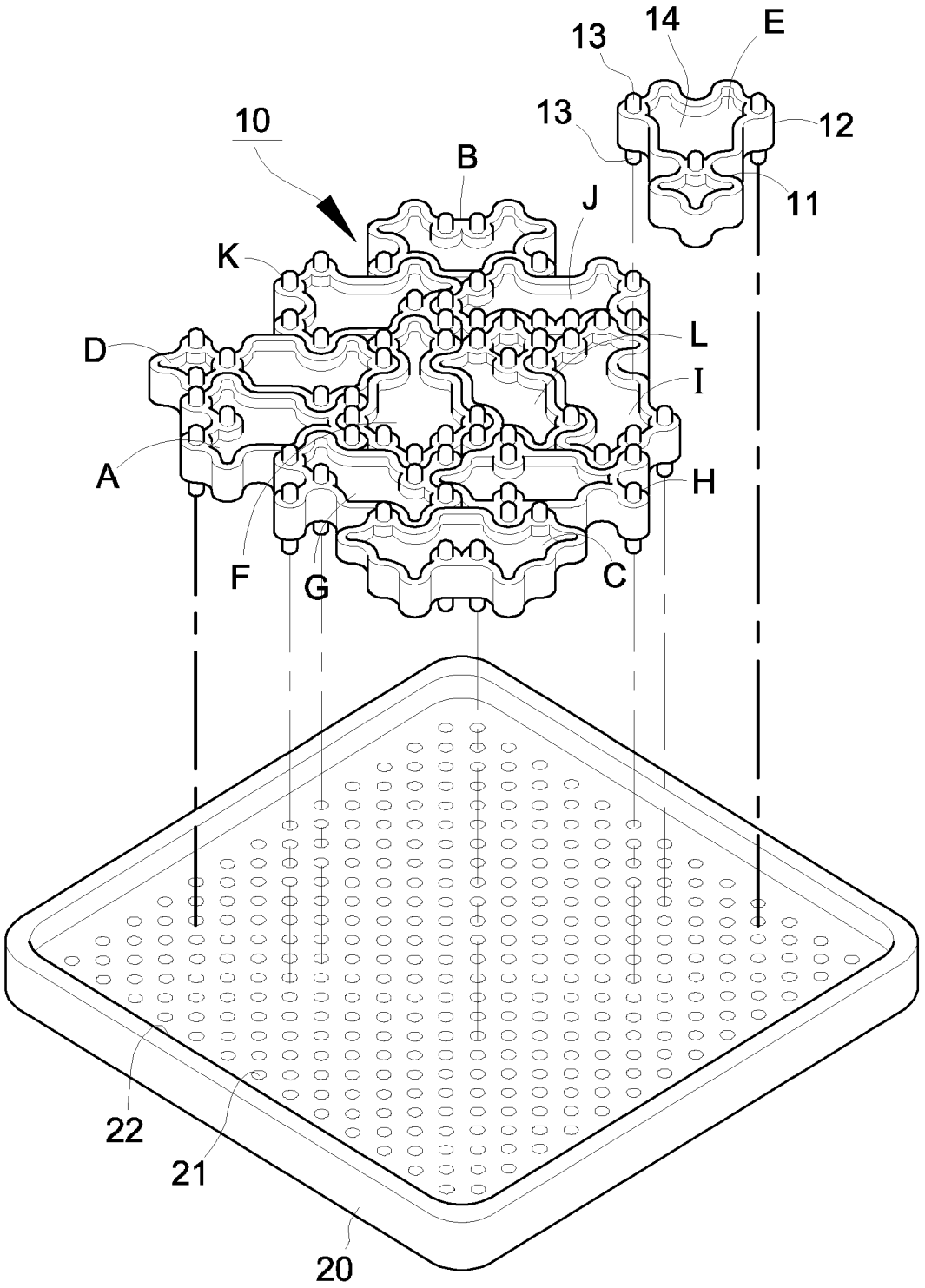


Fig. 5

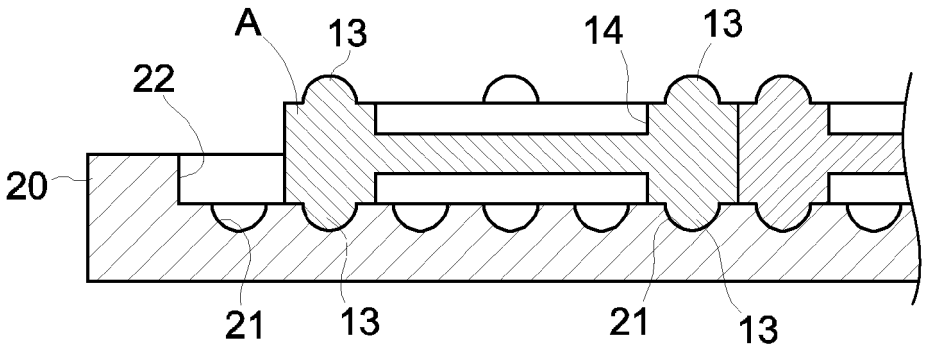


Fig. 6

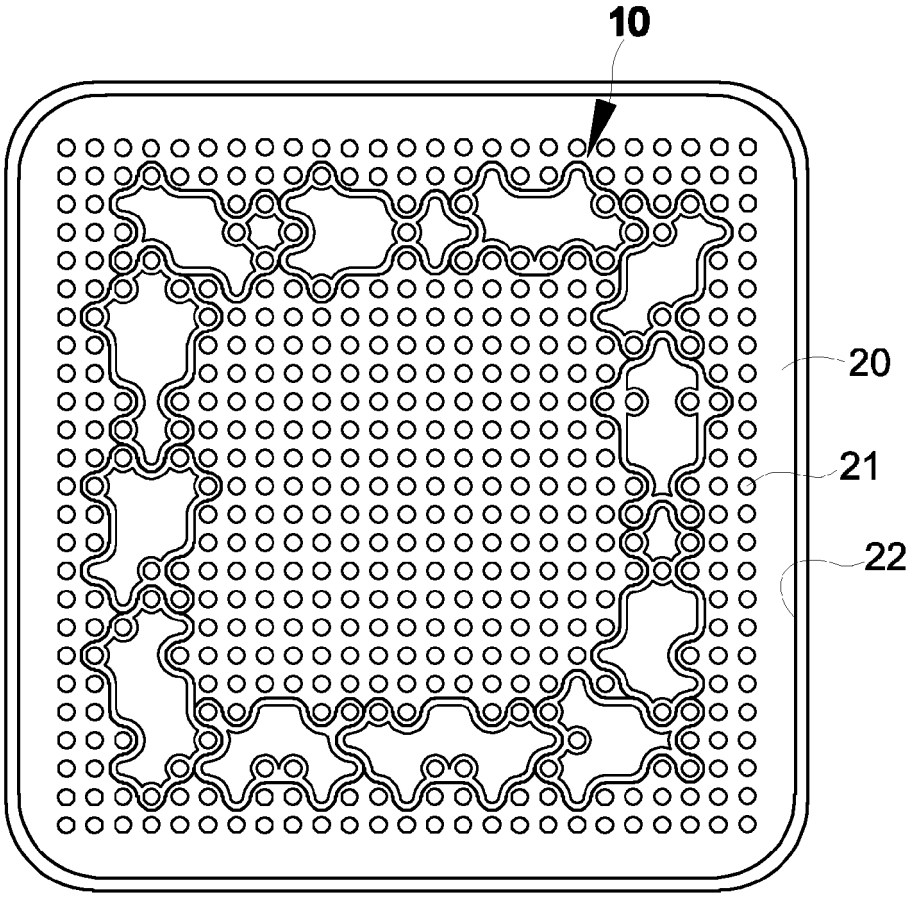


Fig. 7A

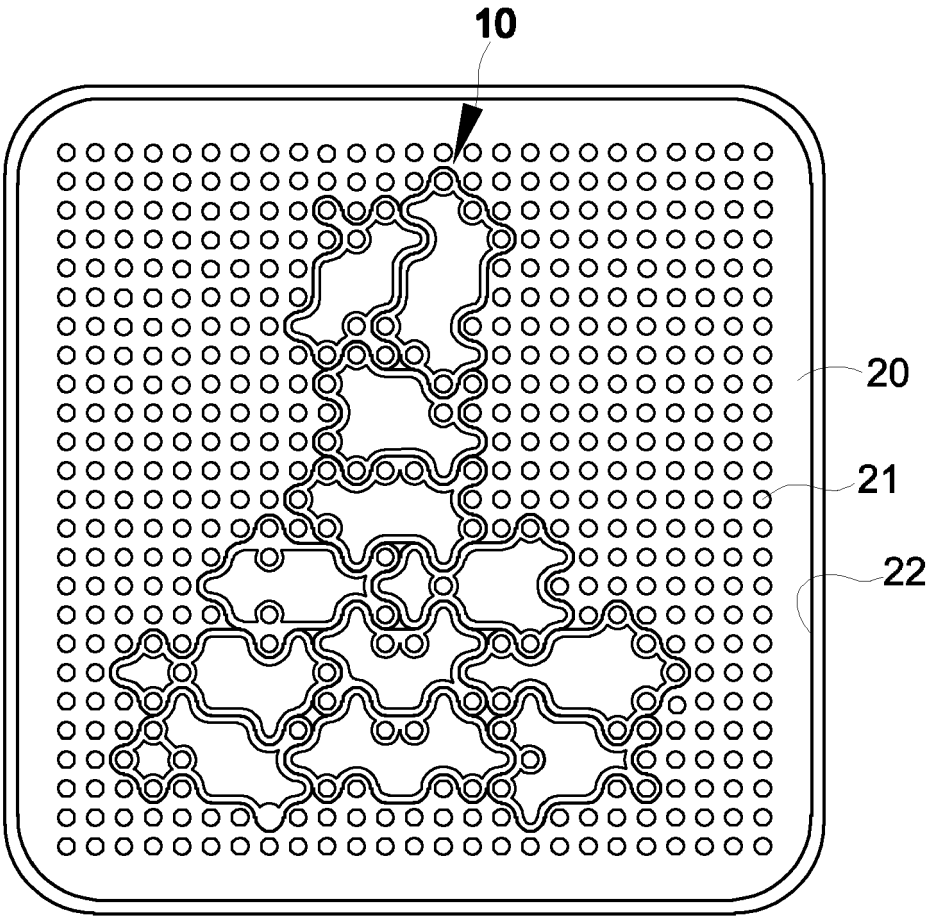


Fig. 7B

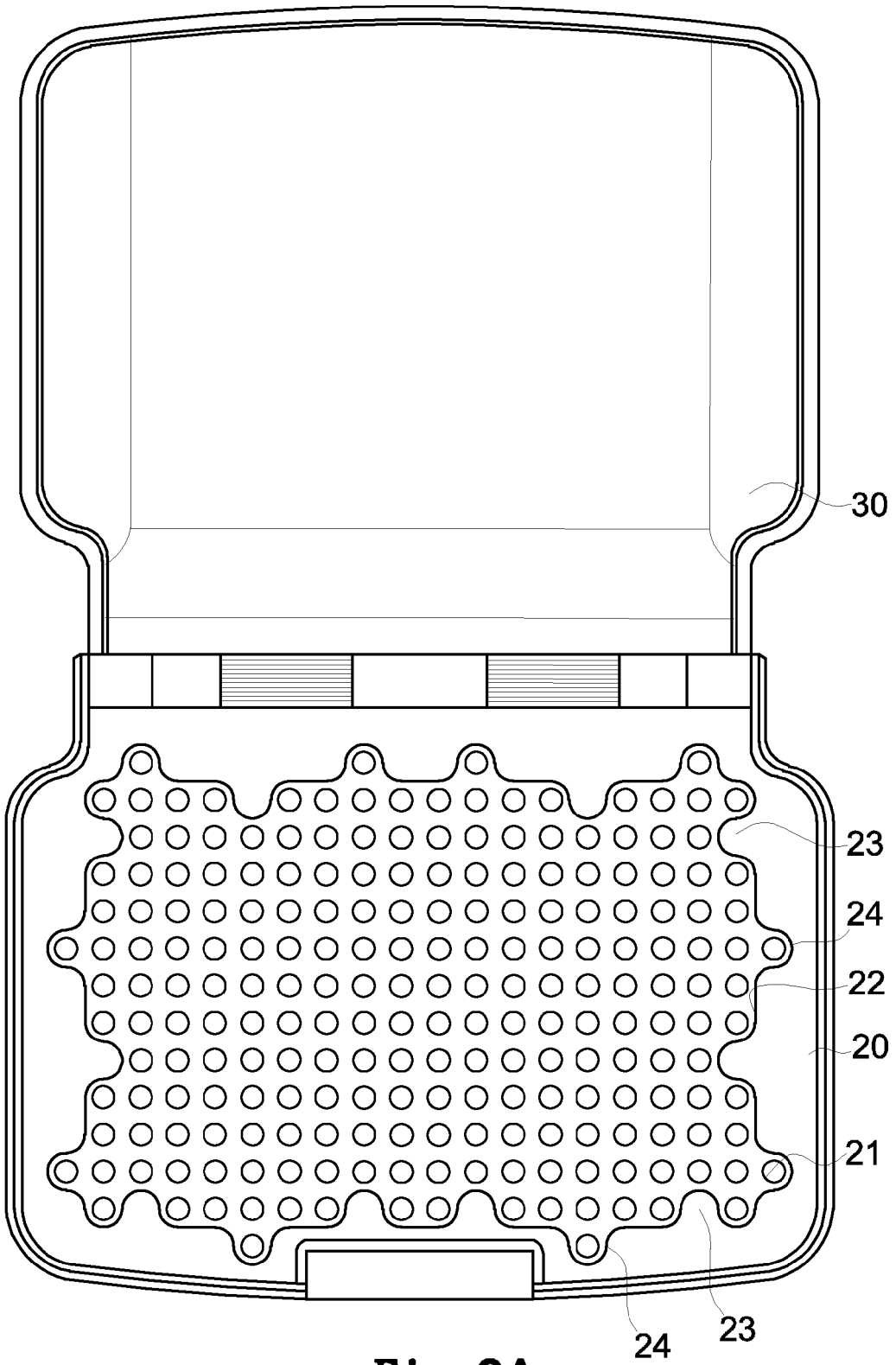


Fig. 8A

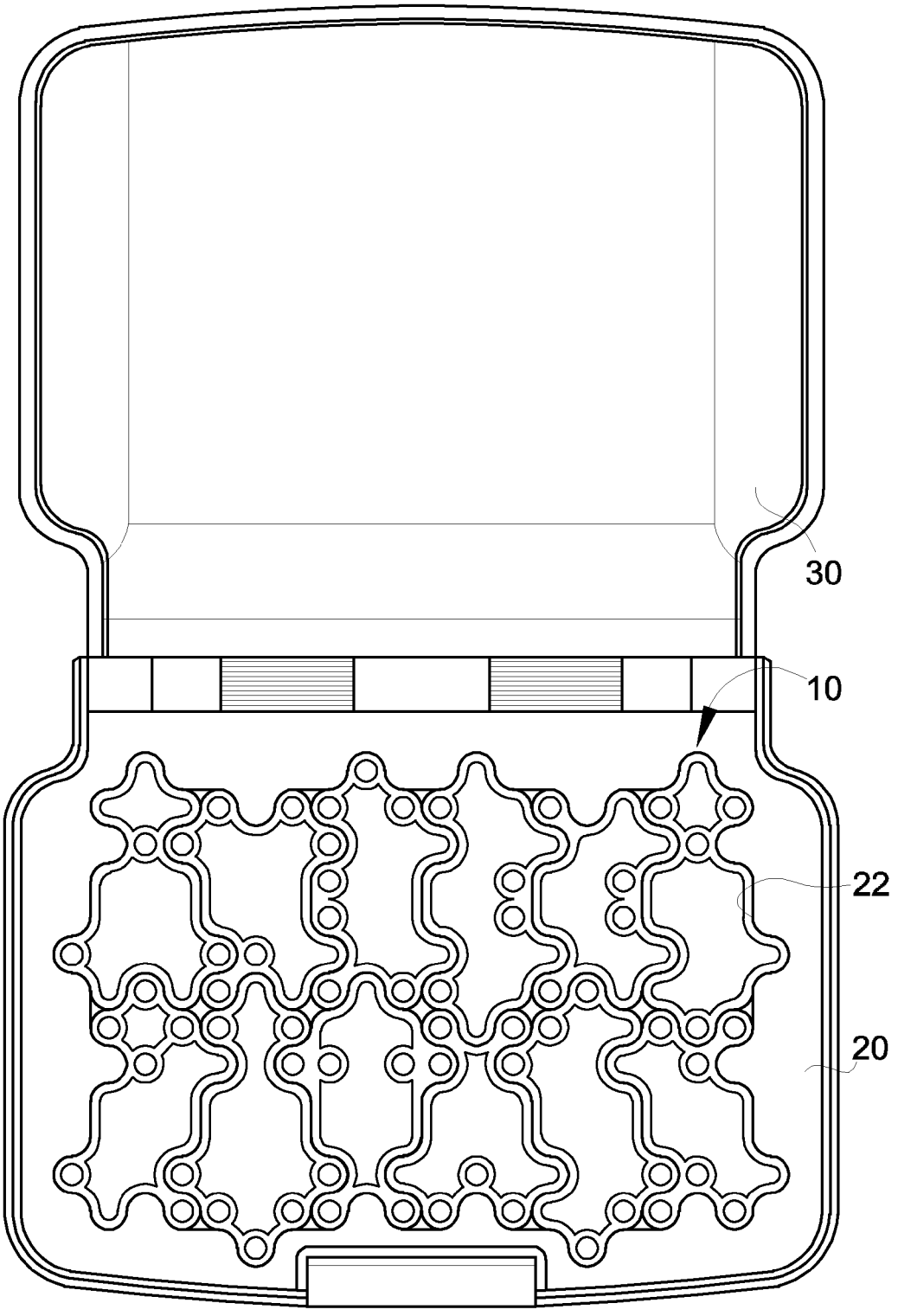


Fig. 8B

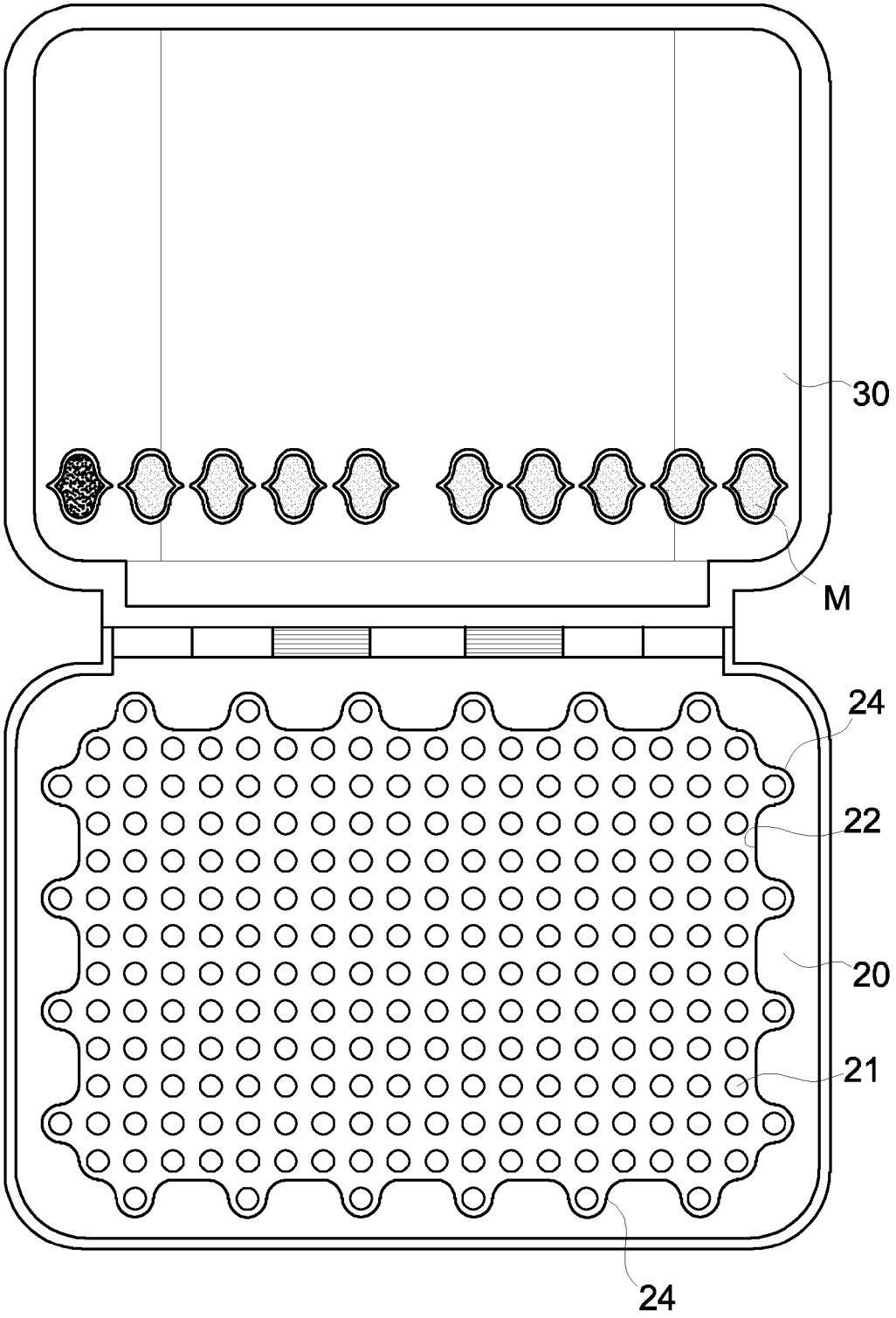


Fig. 9A

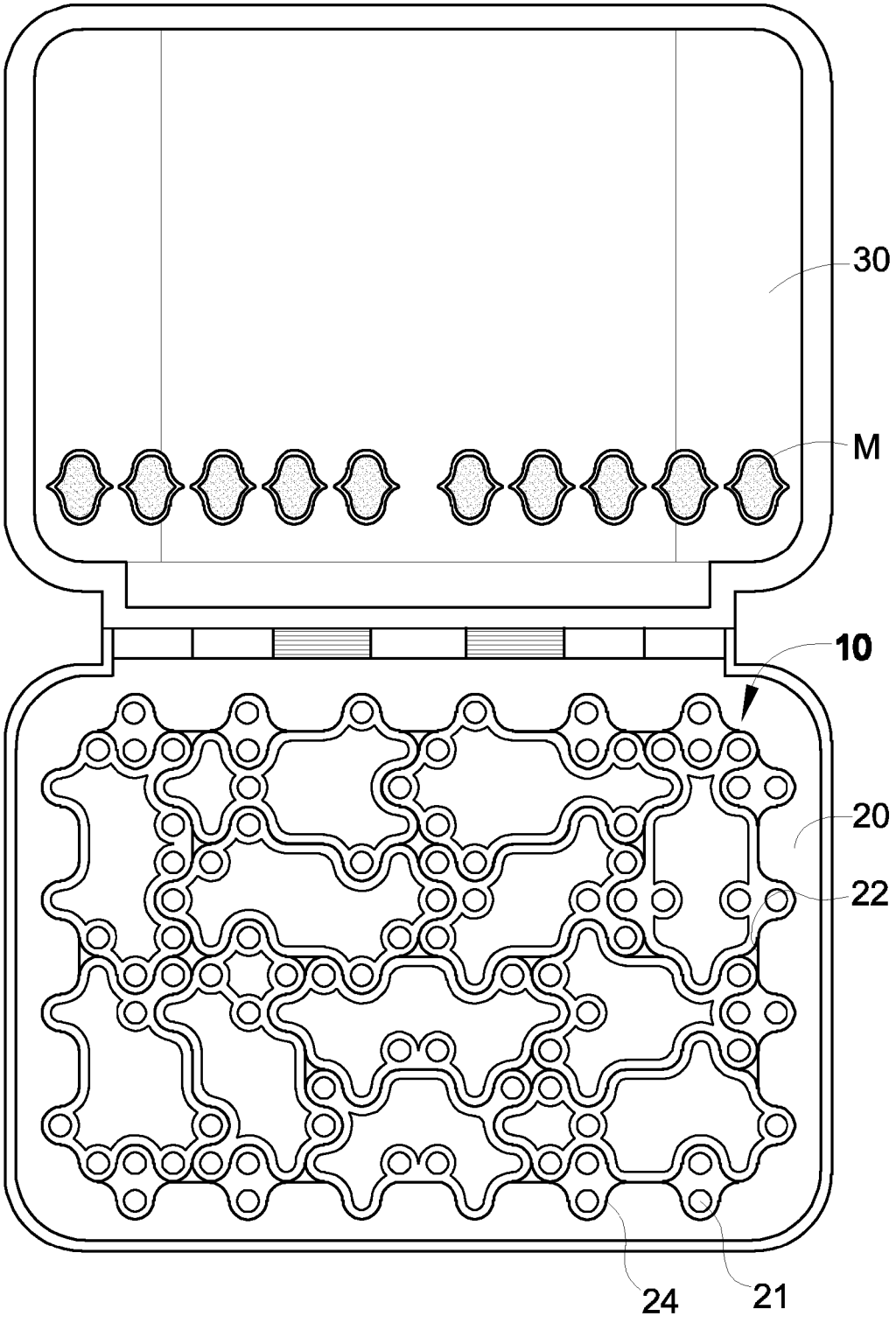


Fig. 9B

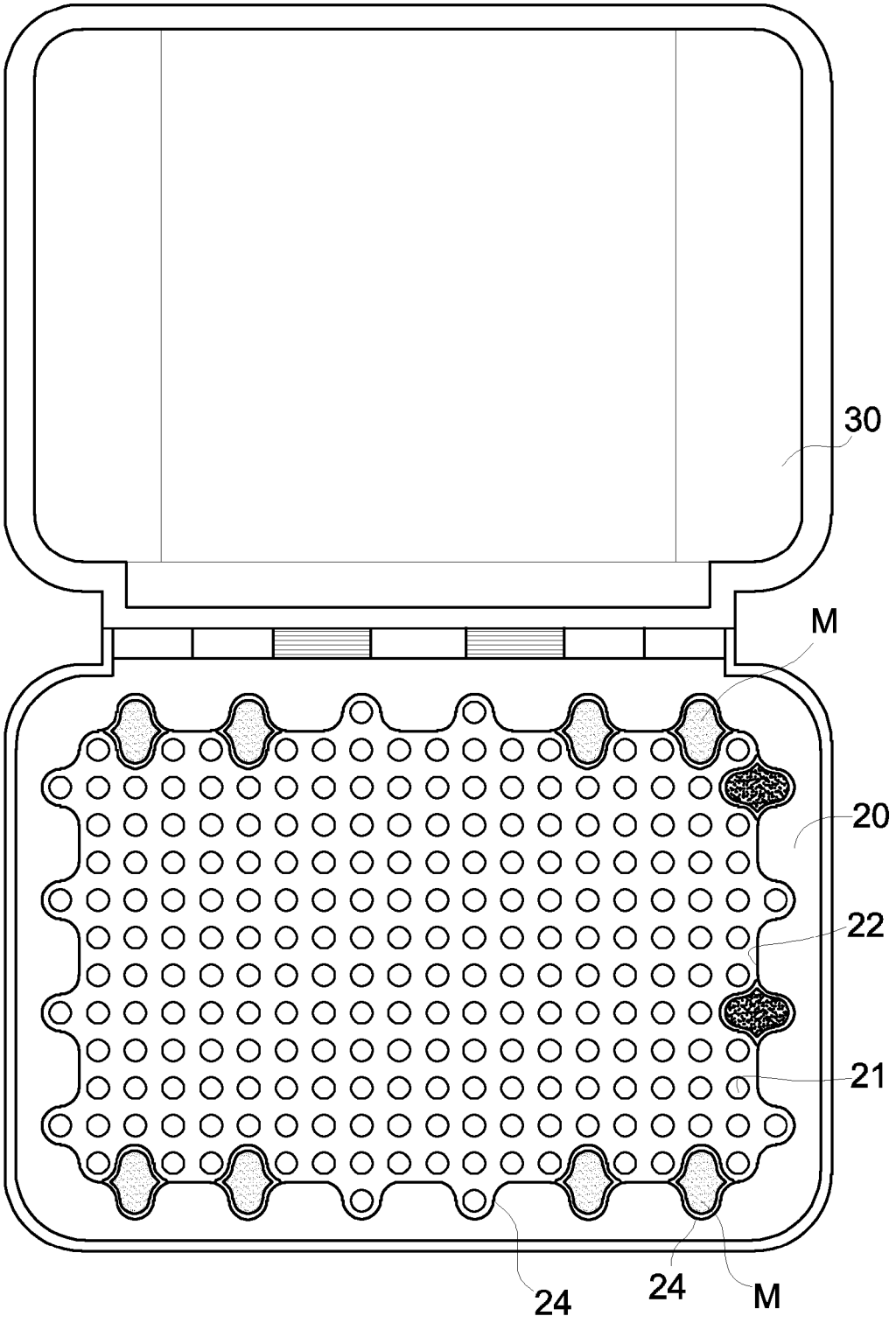


Fig. 9C

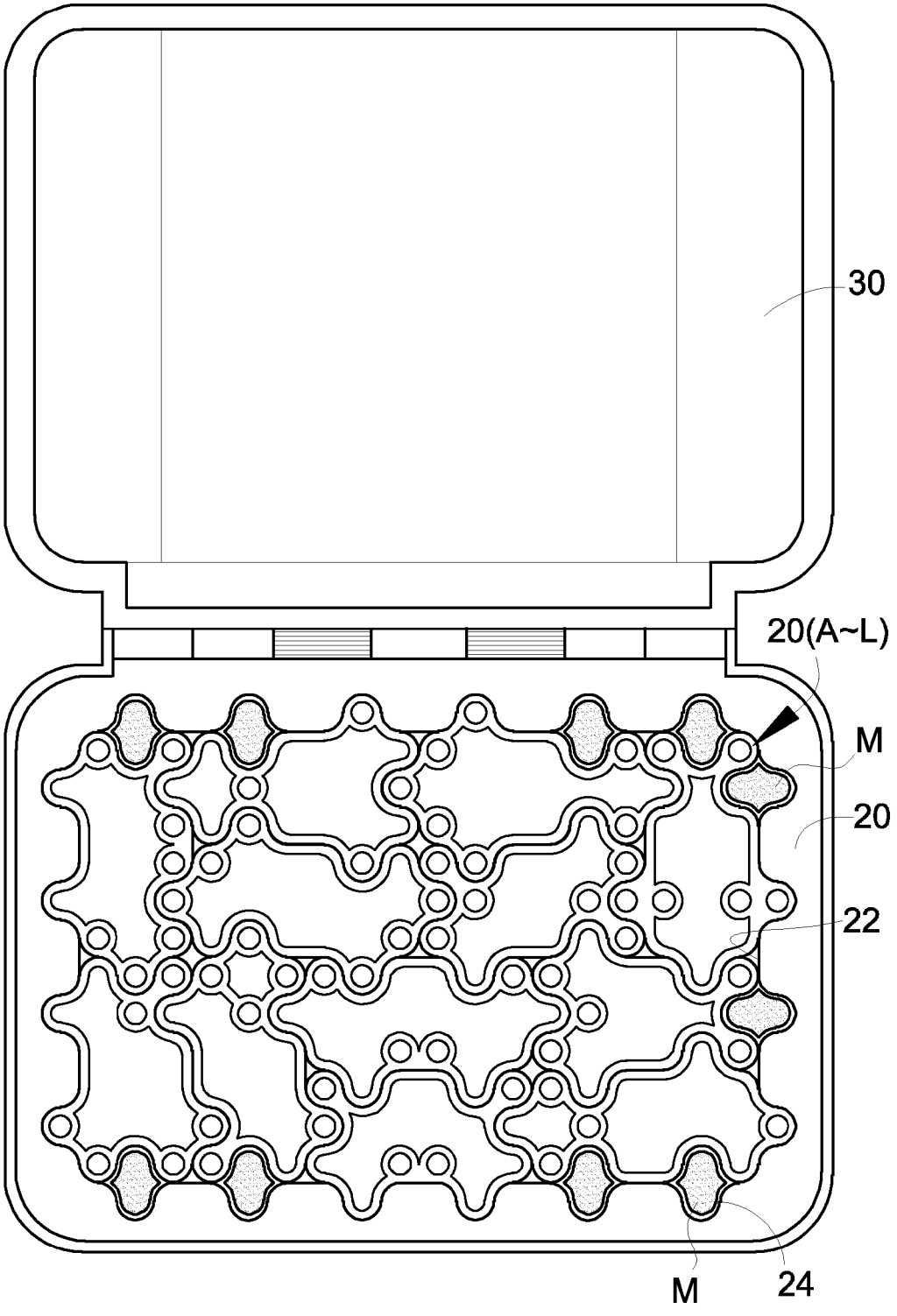
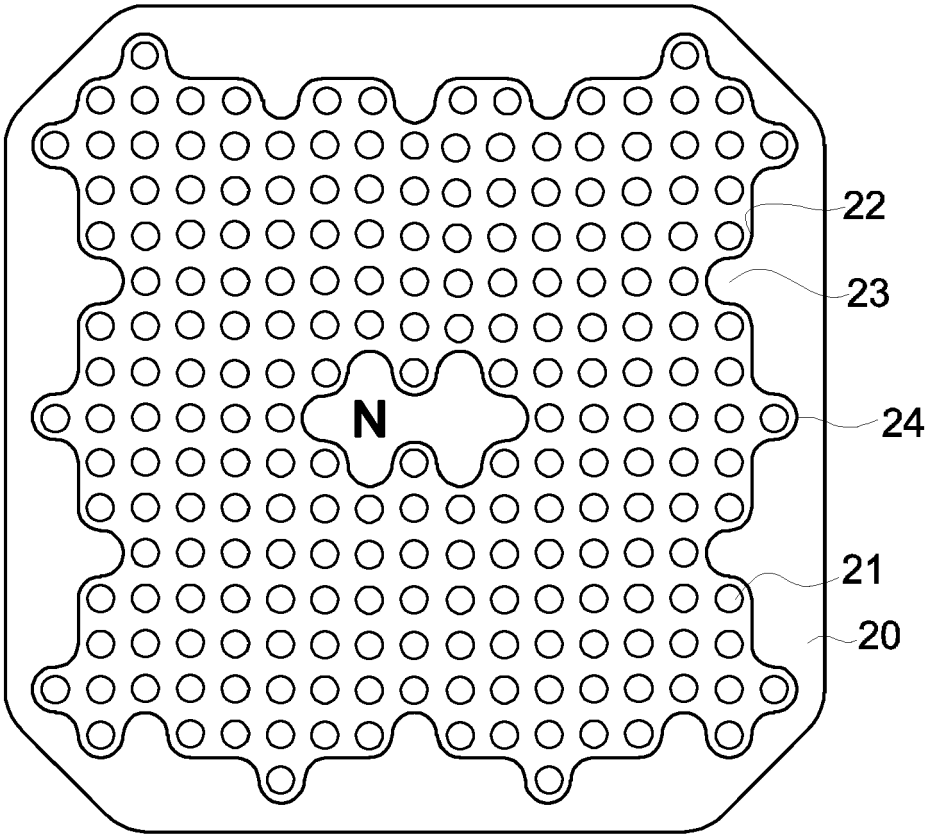


Fig. 9D



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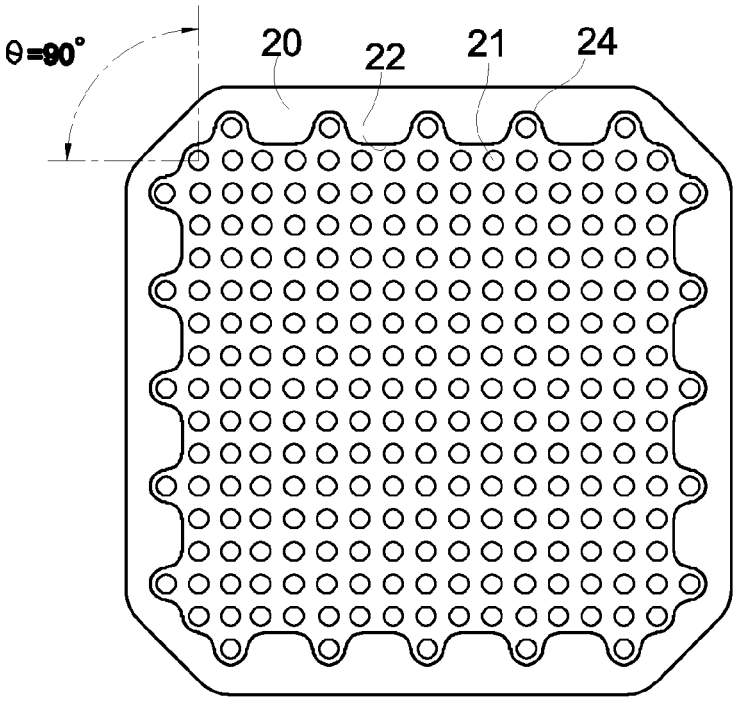


Fig. 11A

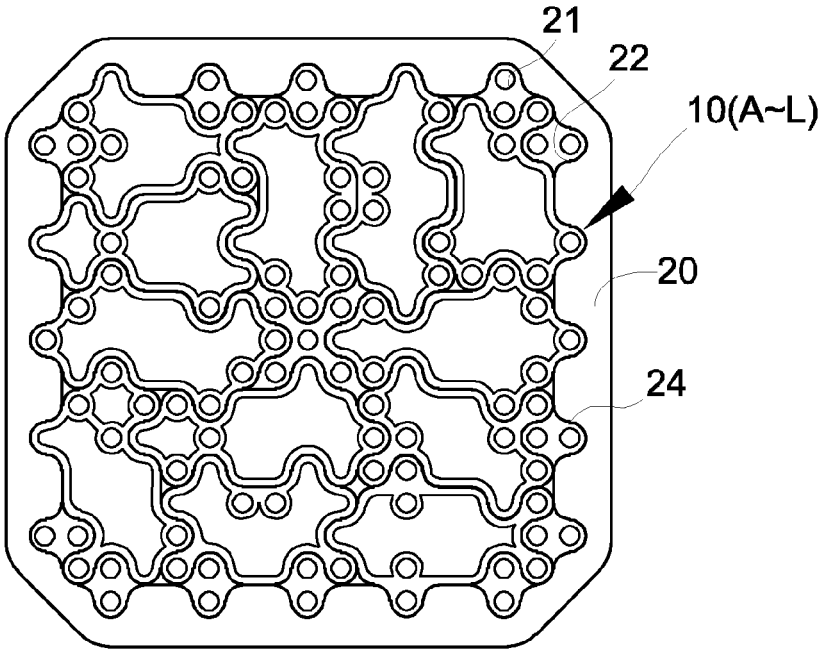


Fig. 11B

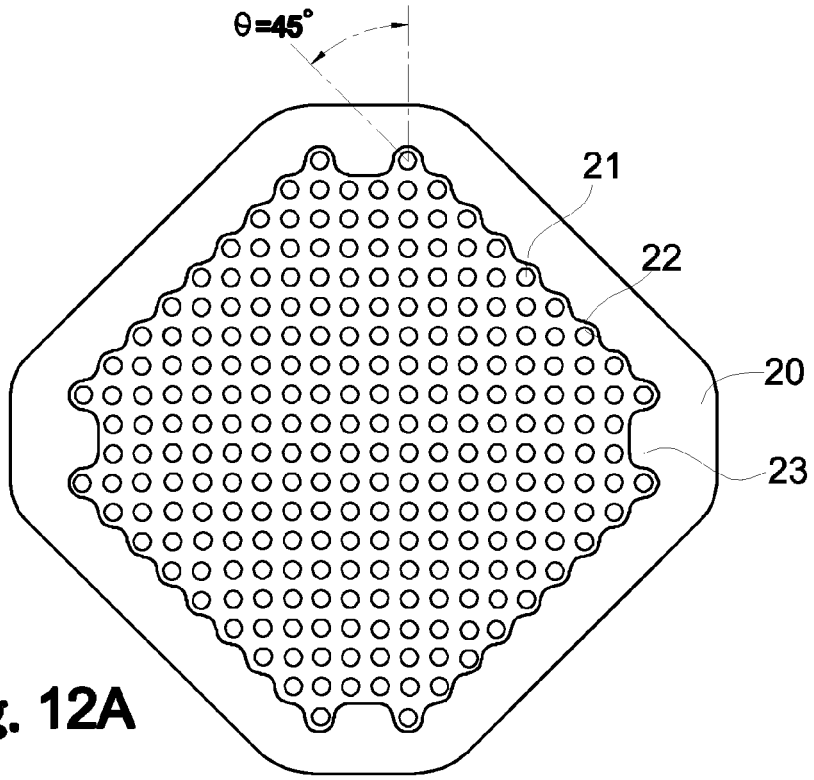


Fig. 12A

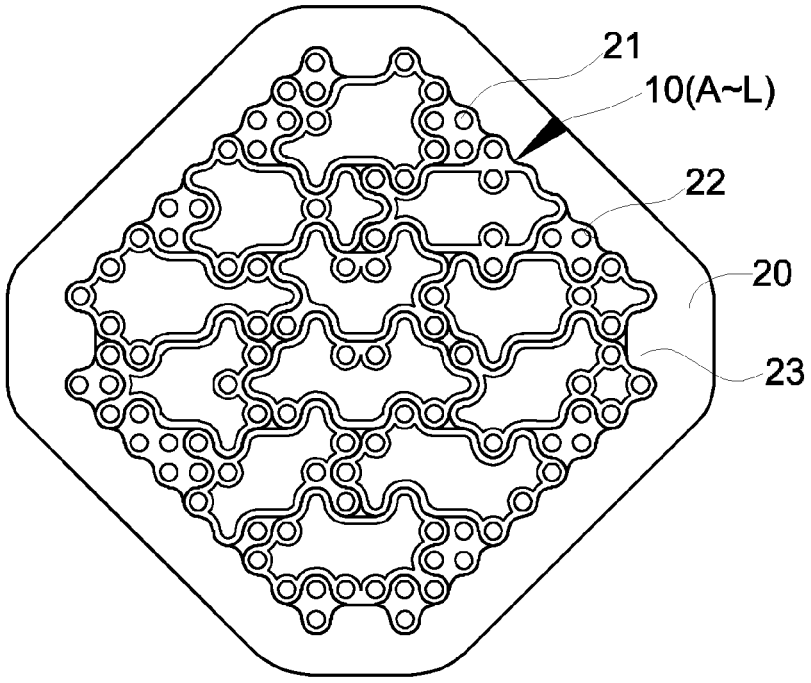
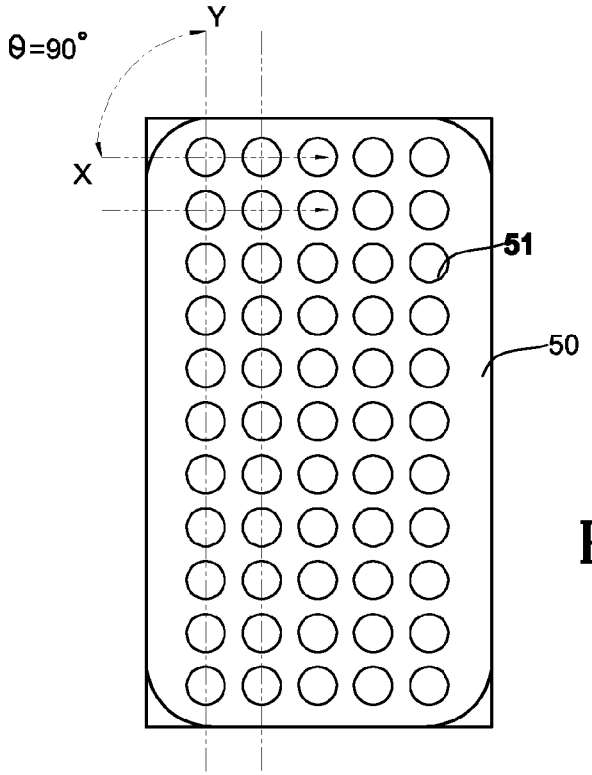
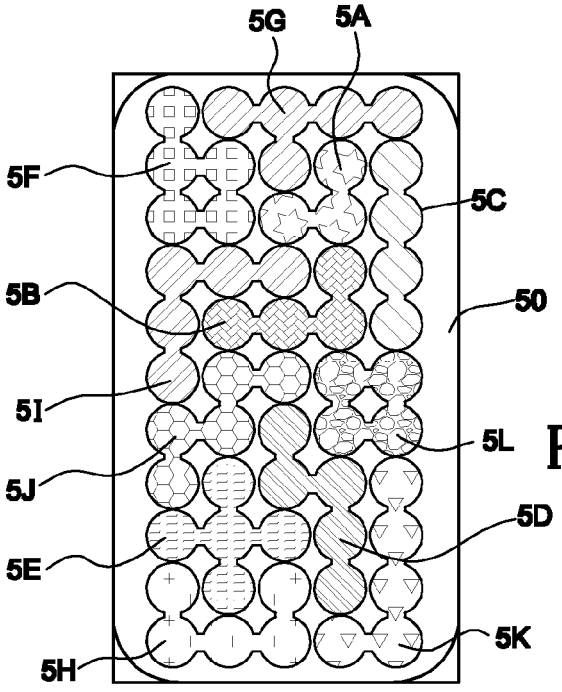


Fig. 12B



Prior Art

Fig. 13



Prior Art

Fig. 14

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EUROPEAN SEARCH REPORT

Application Number
EP 09 17 7861

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 4 830 376 A (HILLIS W DANIEL [US]) 16 May 1989 (1989-05-16) * column 1, line 9 - column 2, line 29; figures 1,4 * * column 2, line 45 - column 3, line 25 *	1,8,9	INV. A63F9/06 A63F9/10
A	FR 2 521 439 A1 (THONNIER JEAN CLAUDE [FR]) 19 August 1983 (1983-08-19) * page 1 - page 2, line 22; figures 1,2,3,6 *	1,2,4-6	
A	US 6 220 919 B1 (CHENG MING-HSIEN [TW]) 24 April 2001 (2001-04-24) * column 3, line 20 - column 6, line 43; figures *	1-3,7-9	
A	EP 1 716 894 A1 (LONPOS BRAINTELLIGENT CO LTD [TW]) 2 November 2006 (2006-11-02) * figures *	1,2,6,7	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	7 May 2010	Bagarry, Damien

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