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(54) Mosaic structure assembly kit

(57) A kit for the assembly of a mosaic structure containing an assembly tool to place blocks having various colors onto at least two interlocking core pieces. The blocks adhere to the interlocking core pieces or to each other by means such as pressure sensitive adhesive. After the blocks are placed, the interlocking core pieces are secured by a means such as a twist-lock connection.

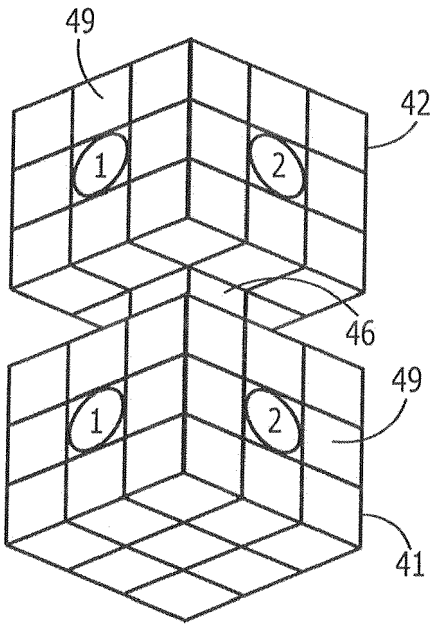

FIG. 5

EP 2 954 939 A2

Description

SUMMARY OF THE INVENTION

[0001] The present invention is directed to the field of educational toys and comprises a kit having adhesive blocks, an assembly tool, interlocking core pieces, and preferably a base surface on which to assemble a work constructed of the blocks and core pieces. When assembled, the kit enables a user to create a mosaic structure having a desired shape in which a pattern or patterns are formed on the shape by blocks having different colors. With the application of a degree of creativity, the assembly kit can be used to form mosaic structures of a sculptural nature that resemble animals, human characters, buildings, and other objects. The assembly kits are particularly useful in teaching children spatial awareness skills and improving hand-eye coordination.

[0002] The mosaic structure assembly kit comprises blocks that are attached to disassembled interlocking core pieces in such a manner so to form mosaic patterns on the faces of the core pieces. The interlocking core pieces are then joined to one another by a means of connecting the two interlocking core pieces to create a mosaic structure. There are several means by which the interlocking core pieces may be connected to each other. The preferred means of connection is a twist-lock connection in which one of the core pieces is fitted with prong bearing a pin at its distal end and the other core piece is fitted with a enclosed cylindrical chamber have a keyed opening. The two interlocking pieces may be connected by inserting the prong and pin through the keyed opening and then rotating the pieces so that the pin is trapped within the chamber thus holding the core pieces together. However, other means of connection can be used including a snap-lock connection in which the prong has protruding pins or ridges that snap into the chamber, a press-fit connection in which the prong is pressed into the opening and engages through friction or elastic resilience, and a screw connection in which the prong has threads and and opening is threaded so to be able to receive the prong.

[0003] As can be seen by the preceding description, the means for connecting the interlocking core pieces generally have a connection member on one piece and the corresponding connection member on the other piece. For example, the twist-lock connection has corresponding members in the form a prong and pin assembly and the opening and chamber, whereas the screw connection has corresponding members in the form of a threaded prong and a threaded opening. However, in some cases, the interlocking pieces can be connected without mechanically-engaged members. For example, in an embodiment in which the interlocking core pieces are magnetized, the two pieces may be connected by engagement via magnetic attraction.

[0004] In a preferred embodiment, the blocks have at least one face that is coated with pressure-sensitive adhesive (PSA). However, the blocks can be attached to the core pieces by other means such as magnetic attraction or pins which are press fit into holes. The blocks can consist of any shape, although shapes consisting of planar surfaces oriented at right angles to each other are preferred.

[0005] The placement of blocks on the interlocking core pieces can be facilitated by using an assembly tool. In its preferred embodiment, the assembly tool comprises a shaft that has at its distal end a thin-walled cavity that is sized so that it is capable of encompassing and holding a block for placement at a predetermined location on an interlocking core piece. If the kit utilizes blocks of different shapes and dimensions, the kit can comprise assembly tools with terminal ends that are sized to handle the various sizes of blocks that are encompassed by the kit.

[0006] In addition, the mosaic structure assembly kit may comprise a planar base surface on which blocks may be secured for a decorative effect to provide support or a background for the mosaic structure. The base surface can have a preprinted pattern that provides guidance to the user on how to position the blocks to form a foundation or setting for the mosaic structure. The pattern can be a grid to facilitate the placement of the blocks, preferably coded with numbers or colors to indicate a particular placement of colored blocks.

DESCRIPTION OF THE DRAWINGS

[0007]

FIG. 1 is a perspective view showing three embodiments of the blocks used in the assembly kit.

FIG 2A. is a perspective view showing a sheet of EVA foam into which a grid pattern has been cut to form blocks having a layer of pressure sensitive adhesive on a single face.

FIG 2B. is a perspective view showing a sheet of EVA foam into which a grid pattern has been cut and in which the blocks have pressure sensitive adhesive on two opposing faces.

FIG. 3 is a perspective view of the assembly tool.

FIG. 4 is a perspective view depicting a pair of uncoupled interlocking core pieces.

FIG. 5 is a perspective view depicting a pair of interlocking core pieces in a coupled position.

FIG. 6 is a perspective view of the assembly tool removing a block from a sheet of EVA foam.

FIG. 7 is a perspective view of a female interlocking piece with blocks attached and the distal end of an assembly tool holding a block.

FIG. 8 is a perspective view of a male interlocking piece with blocks attached.

FIG. 9 is a perspective view showing how to couple a male block assembly to a female block assembly.

FIG. 10 is a perspective view showing the attachment of a mosaic structure onto a base structure.

FIG. 11 is a perspective view showing multiple inter-

locking core pieces having various arrangements for twist-lock connections.

FIG. 12 is a perspective view of sculptural elements adapted for attachment to interlocking core pieces.

FIG. 13 is a perspective view of interlocking core pieces having a module containing a chip used to generate sound, light, heat, or vibration.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0008] FIG. 1 shows three embodiments of blocks used in the preferred embodiment of the assembly kit in which at least one face of the blocks is coated with a layer of pressure sensitive adhesive. One variant used in this embodiment is a cubic block having five faces 2 that are free of adhesive and one sticky face 3 that is coated with pressure sensitive adhesive. A second variant is a rectangular block 4 in which the two faces on the ends are smaller than the four faces on the side. Both the end faces 5 are free of adhesive as are three of the side faces 6a. The remaining side face is a sticky face 6b that is coated with pressure sensitive adhesive. The third variant is a rectangular block 7 consisting of four side faces 8 and end faces 9a and 9b. Faces 8 and 9b are free of adhesive and face 9a is coated with pressure sensitive adhesive. In a further variation, the blocks may have two faces which are coated with pressure sensitive adhesive. Preferably, the faces that are coated with pressure sensitive adhesive will be on the opposing sides of the block.

[0009] Rectangular blocks 4 and 7 preferably have square end faces 5, 9a, and 9b and side faces 6a, 6b, and 8 in which the long side of the rectangle is twice the length of the short side. It is further preferable that for those assembly kits which have combinations of cubic blocks 1 and either or both types of rectangular blocks 4 and 7, that the length of the vertices 10 of the cubic block 1 equal the length of the vertices 11 of rectangular blocks 4 and 7.

[0010] The blocks 1, 4, and 7 can be constructed of almost any solid material that is capable of being coated with a pressure sensitive adhesive including wood, metal, glass, plastic, and rubber. The blocks should be made in different colors and textures so that combinations may be formed to create a pattern. It is preferred that the blocks be made of a resilient material that is able to recover its original shape after being compressed. One such material is foam made from ethylene vinyl acetate (EVA) having a density of 45 degrees. The preferred dimensions for the cube blocks 1 are 2x2x2 millimeters (mm), 4x4x4 mm, and 8x8x8 mm. The preferred dimensions for rectangular blocks 4 and rectangular blocks 7 are 2x2x4 mm, 4x4x8 mm, and 8x8x16 mm. However, the blocks may be made and used in any size and dimensions.

[0011] In another embodiment, the blocks 1, 4, and 7 are not coated with a pressure sensitive adhesive but instead are made with a material having magnetic properties or a material that can be attracted to a magnet. Examples of such materials are plastic magnets (a ferromagnetic compound such as ferric oxide mixed with a plastic binder), steel, and iron. The blocks 1,4, and 7 in this embodiment are generally not coated with pressure sensitive adhesive. In the magnetic embodiment, the blocks 1 may be made entirely of a magnetic material or may have the magnetized portion limited to one or more faces. For example, a sheet of plastic magnet could be glued to at the attachment faces 3, 6b, and 9a.

[0012] FIG. 2A shows a sheet 21 of EVA foam into which blocks 1 have been cut using a punch press to cut a grid pattern. The sheet 21 consists of an EVA foam layer 22 onto which a layer of pressure sensitive adhesive 23 has been applied. A release liner 24 protects the adhesive 23 until a block 1 is removed from the liner 24. A punch press cuts the grid pattern such that the cut extends through the EVA foam layer but leaves the release liner intact. This forms a grid of blocks 1 that are releasably attached to the release liner 24. When a block 1 is removed from the release liner 24, the pressure sensitive adhesive 23 on the bottom of the block will be exposed and thus capable of adhering the block 1 to another surface.

[0013] Another variation of the sheet, shown in FIG. 2B, utilizes a sheet 21 of double-sided EVA foam which consists of a bottom release liner 24, a bottom layer of pressure sensitive adhesive 23 coating the bottom surface of the sheet 21, an upper layer of pressure sensitive adhesive 25 covering the upper surface of the sheet 21, and an upper release liner 26. A punch press is used to cut a grid pattern through the upper release liner 26, the upper layer of adhesive 25, and the foam layer 22, but leaves the bottom release liner 24 intact. When a block 1 is removed from the release liner 24, the pressure sensitive adhesive 23 on the bottom of the block will be exposed and thus capable of adhering the block 1 to another surface. After the block 1 has been attached to another surface, the segment of upper release liner 26 may be removed from the block 1 and thereby exposing the upper layer of pressure sensitive adhesive 25.

[0014] FIG. 3 shows the assembly tool 31 which is used to place the blocks 1 into positions so that the sticky face 3 may adhere to a surface. The purpose of the assembly tool 31 is to assist in the positioning of blocks 1 onto the interlocking pieces because it would otherwise be difficult to handle small blocks by hand. The assembly tool 31 has a shaft 32 which has a proximal end 33 having a proximal cavity 34 that is sized to fit over and releasably secure a block 1. For example, the proximal cavity 34 of an assembly tool designed to pick up and grip onto a block 1 having dimensions of 4x4x4 mm, would have a opening of 4x4 mm with a depth of about 2 mm. Preferably, the wall 35 of the proximal cavity 34 will be thin to facilitate the removal of blocks 1 from the EVA sheets described in FIGS. 2A and 2B. If other shapes of blocks, such as rectangular blocks 4, are used, the proximal cavity 34 may be sized according to the dimensions of the

block, and so that face of the block that is coated with pressure sensitive adhesive is not encompassed by the cavity 34 but instead faces towards the surface to which the block is to be adhered. Optionally, the assembly tool 31 can have a distal end 36 that is sized for a block having different dimensions than the blocks that are handled using the proximal end 33. For example, as shown in FIG. 3, if the proximal end 33 is sized to be used with blocks having end dimensions of 4x4 mm such as block 1, then the distal end 36 may be sized to be used with rectangular blocks 4 having an end dimension of 4x8 mm and a long dimension of 4 mm.

[0015] FIG. 4 shows an female interlocking piece 41 and an male interlocking piece 42 in an uncoupled state and FIG. 5 shows the interlocking pieces 41 and 42 in a coupled state. In the preferred embodiment, the interlocking pieces 41 and 42 are coupled together via a twist lock connection. One face of the female interlocking piece 41 has an opening 43 into a cylindrical chamber 45. The opening 43 is preferably circular in shape and has a slot 44 at the perimeter. The male interlocking piece 42 has a face in which a box-shaped protuberance 46 supports a prong 47 having a pin 48. The dimensions of the opening 43, slot 44, chamber 45, prong 47, and pin 48 are such that the prong 47 can be inserted into the opening 43 and rotated so as to removably couple the interlocking pieces 41 and 42 by means of the pin 48 being enclosed by the chamber 45.

[0016] In an alternate embodiment, the circular opening 43 does not have a slot 44 and the pin 48 is elastically resilient so that it compresses when the prong 47 is inserted into the opening 43. When the prong 47 is inserted sufficiently deep for the pin 48 to enter the chamber 45, the pin 48 decompresses and expands to its original volume, thus securing the male interlocking piece 42 to the female interlocking piece 41.

[0017] The interlocking pieces 41 and 42 may be scored with parallel lines 49 on each face so as to delineate sectors 50 onto which the adhesive blocks shown in FIG. 1 may be attached. The sectors 50 may bear a number, letter, symbol, or color code that is accompanied by a legend that associates a block 1 having a specific color to a particular sector 50.

[0018] In the embodiment shown in FIGS 4 and 5, the interlocking pieces 41 and 42 are cubes have dimensions equal to the width of three blocks 1. In this embodiment, the interlocking pieces 41 and 42 can support blocks in arrays of five blocks by blocks on the faces of the interlocking pieces that do not have members used for coupling the interlocking pieces. However, the interlocking pieces may be of different dimensions and have different proportions than a cube. For example, an interlocking piece may be in the form of a slab having a depth equal to the width of a single block 1, a height equal to the width of ten blocks and a width equal to the width of four blocks. Such an interlocking piece can be fitted with blocks 1 to form an assembly having a depth of three blocks 1, height of 12 blocks, and a width of six blocks. In addition, an interlocking piece may have stepped construction in which the depth, height, or width varies. For example, such an interlocking piece could have a width of five blocks at the bottom, three blocks in the midsection, and four blocks at the top.

[0019] The interlocking pieces 41 and 42 may be made of any material having sufficient rigidity to support the blocks 1. In embodiments where the blocks 1 have pressure sensitive adhesive, the surface of the interlocking pieces 41 and 42 must be capable of being adhered to by the pressure sensitive adhesive on the blocks 1.

[0020] In an alternative embodiment, in which the blocks 1 are attached to the interlocking blocks 41 and 42 by magnetic attraction, either or both the blocks 1 and the interlocking pieces 41 and 42 are made of a material having magnetic properties or a material that is attracted to a magnet.

[0021] As shown in FIG. 5, when the interlocking pieces 41 and 42 are in a coupled state, they form an assembly in which the two pieces are separated by the box-shaped protuberance 46. It should be noted although in the preferred embodiment, the interlocking pieces 41 and 42 are cubes, that other three dimensional shapes having flat faces may be used such as rectangular blocks.

[0022] FIG 6. shows the assembly tool 31 being used to remove a foam block 1 from the sheet 21 of foam blocks 1. To use, the proximal end 33 of the assembly tool is engaged with a block 1 and slightly rotated around its vertical axis so as the disengage the block 1 from the release liner 24. The block 1 is lifted out of the sheet 21 such that the sticky face 3 is facing away from the assembly tool.

[0023] FIG. 7 illustrates a female interlocking piece 41 onto which foam blocks 1 have been secured. The assembly tool 31 is used to hold a foam block 1 in its proximal end 33 and to enable the foam block 1 to be guided to a sector 50 on the female interlocking piece 41 such that the sticky face 3 causes the form block 1 to adhere to the female interlocking piece 41. The foam blocks 1a can be secured either directly to the female interlocking piece 41 or the foam blocks 1b can be secured to another foam block 1c. In this manner, complex shapes may be assembled around the female interlocking piece to form a female block assembly 71.

[0024] FIG. 8 depicts the similar manner is which a male block assembly 81 is constructed by securing blocks 1 around a male interlocking piece 42. The blocks 1 are installed surrounding the box-shaped protuberance 46 such that the prong 47 having a pin 48 extends above the face 82 created by the assembly of blocks 1 around the box-shaped protuberance 46.

[0025] FIG. 9 shows how the male block assembly 81 is attached to the female block assembly 71 to form a mosaic structure 91. The attachment is made by lowering the male block assembly 81 onto the female block assembly 71 until the prong 47 and pin 48 shown in FIG. 4 fits into the opening 43 and slot 44. The male block assembly 81 is then rotated around its vertical axis thus

causing the pin 47 to be engaged in the chamber 45 also shown in FIG. 4.

[0026] FIG. 10 shows a base structure 100 into which the mosaic structure 91 may be installed. The base structure 100 comprises a base sheet 101 onto which blocks 1 may be secured. The base sheet is preferably planar and may be made from any material that is sufficiently stiff to support the blocks 1. In the preferred embodiment, the base structure 100 must be capable of being adhered to by a pressure sensitive adhesive. Examples of suitable materials include cardstock, sheets of EVA foam, and rigid plastics such as polyvinyl chloride or polycarbonate. Similarly, in the embodiment in which the blocks 1 are attached magnetically, the base structure 100 can either be made of a magnetic material if the blocks 1 are not magnetized, or if the blocks 1 are magnetized, a material to which magnets are attracted.

[0027] The base sheet 101 is preferably marked either by printing, imprinting, or embossing with lines that create a grid of boxes 102 that indicate the placement of blocks 1 to facilitate proper alignment. Preferably, such boxes are coded by color or a numeric key to indicate which color of block 1 should be affixed to the box 102. Blocks 1 may be attached to the base sheet 101 and onto each other to form shapes that suggest an environment surrounding the mosaic structure. The blocks 1 can be attached to the base sheet 101 in an arrangement whereby they surround a space forming a slot 103 having a predetermined dimension. The mosaic structure 91 can have blocks 1 that are attached so as to constitute a member 104 having the same predetermined dimensions as the slot 103. The mosaic structure 91 may thus be attached to the base structure 100 by pressing the mosaic structure onto the base structure by engaging the member 104 (or members) into the slot 103 (or slots 103) so that the mosaic structure is held onto the base structure 100 by a press fit. The end result is a mosaic sculpture set in a decorative base.

[0028] As shown in FIGS. 5 and 9, the preferred embodiment uses two interlocking cubes 41 and 42 as the core of the mosaic structure 91. However, the mosaic structure assembly kit is not limited to ONLY two interlocking cubes. FIG. 11 illustrates examples of interlocking pieces that have openings 43 or protuberances 46 with prongs 47 and pins on various faces. One of the interlocking pieces has openings 46 on each of its faces and can be used to connect up to six interlocking pieces having a protuberance 46 with a prong 47 and pin 48. Another example of such an interlocking piece 112 has openings 43 on two adjacent faces and another example of an interlocking cube 113 had an opening 43 on one face and a protuberance 46 with prong 47 and pin 47 on an adjacent face. Interlocking pieces may be made with various configurations of openings 43 or protuberances 46 with prongs 47 and pins 48 located on different faces. Another example is an interlocking piece 114 having protuberances 46, prongs 47, and pins 46 on opposing faces. The use of these kinds of interlocking pieces enables the assembly of complex mosaic structures. In addition, the assembly kit can include a twist-lock connector 115 comprising a rectangular box 116 preferably having the same general dimensions as a protuberance 46 with prongs 47 and pins 48 on opposing faces. The twist-lock connector 115 can be inserted into the opening 43 of a interconnection piece and rotated to loosely secure it in place. The twist-lock connector 115 may be further secured by installing blocks 1 around the perimeter of the rectangular box 116, thus effectively modifying the face of an interlocking piece having an opening 43 into an interlocking piece having a protuberance 46 with prong 47 and pin 48. In addition, the assembly kit may include an interlocking piece 117 in which the prong 47 and pin are attached directly to a face of the interlocking block without sitting on a protuberance so that two interlocking blocks may be joined to form a larger interlocking piece. Similar connectors can be used which are configured with means of connection other than twist-lock connections such as snap-lock connections, press-fit connections, and screw connections.

[0029] The assembly kit can also comprise attachments in special shapes to simulate objects such as body and building parts. FIG. 12 shows two examples of attachments simulating an arm. The first example is an unadorned hand 121 in which the shape is a sculptural rendition of an hand. The second example is a mosaic arm 122 onto which blocks 1 may be attached so that the mosaic nature of the entire structure may be maintained.

[0030] The assembly kit may also include interlocking pieces that are able to emit sounds, light, vibrations, or heat upon receipt of an outside input such as pressure or a radio signal. FIG. 13 shows an interlocking piece 131 of the female type although this aspect of the invention applies to interlocking pieces of any type. The interlocking piece 131 is hollow and has square-shaped openings 132 on two opposing faces of the interlocking piece 131. The openings 132 can be substantially covered by square-shaped plates 133 which are sized to fit within the openings 132. The plates 133 have flexible clips 134 which when pushed into the openings 132 make a snap-lock connection that prevent the plates 133 from being pushed away from the openings 132 but allow the plate to be pushed into the openings 132. A module 135 having dimensions such that it can be inserted into the hollow space within the interlocking piece 131 and occupy substantially all the volume of the hollow space. It is desirable for the module 135 to be resiliently flexible so that it exerts a degree of force oriented towards the openings 132. When the plates 133 are inserted into the openings, the clips 134 restrain the plates 133 from falling out of the openings and the volume of the module 135 keeps the plates 133 from falling into the interlocking piece 131. When thus assembled, the plates 133 are constrained although able to move slightly inwards with respect to the openings 132 against the resistance of the resilient outward pressure of the module 135. It should be noted

that this is one of several means by which modules 135 can be contained within interlocking pieces 131. Another means is to make the interlocking pieces in halves which are snap-locked, screwed, or glued into place around the module 135.

[0031] The modules 135, which are commercially available and well known in the art, comprise chips that are activated by pressure or remotely transmitted signals to emit sound, light, heat, or vibrate. For example, a sound-emitting interlocking piece 131 can be fitted with a module 135 constructed so that when external pressure is applied to a plate 133, a pressure-activating device within the module 135 completes an electrical circuit that transmits power to the chip which in turn emits a sound. Similarly, a version of a module that emits light could be used in conjunction with interlocking pieces 131 constructed of transparent or translucent material such that the light emitted from the module passes through the walls of the interlocking piece. This could be used to generate effects with blocks 1 constructed of transparent or translucent material. In another version, a module 135 that emits heat could be used with blocks 1 made from materials having thermochromic properties to generate effects of changing colors or shades induced by the heat emitted from the module 135. Likewise, a module 135 that vibrates could be used to create motion effects in the interlocking piece 131 such as shaking or directional movement.

[0032] While the present invention has been described with regard to the preferred embodiments, it should be understood that the invention is not limited to these embodiments and a number of variations and modifications can be made to the structure described above without departing from the spirit and scope of the present invention.

Claims

1. A kit comprising

a) a plurality of blocks having a plurality of colors, said blocks having at least one face coated with a layer of pressure sensitive adhesive and having a thickness dimension;

b) a first interlocking piece onto which said blocks are affixed by said pressure sensitive adhesive in a desired pattern and a second interlocking piece onto which said blocks are affixed by said pressure sensitive adhesive in a desired pattern;

c) said first interlocking piece having a protuberance having a first corresponding member of a means for connecting the first interlocking piece to the second interlocking piece, said protuberance having a height dimension equal to said thickness dimension of said blocks; and

d) said second interlocking piece having a second corresponding member of the means for connecting the first interlocking piece to the second interlocking piece.

2. The kit of claim 1 in which the means for connecting the first interlocking piece to the second interlocking piece is a twist-lock connection in which the first and second corresponding members consist of a pin attached to a prong and an opening into a chamber such that when the prong and pin are inserted through the opening into the chamber, and when first interlocking piece is rotated relative to the second interlocking piece, the male and female interlocking pieces become secured to each other.

3. The kit of claim 1 in which the means for connecting the first interlocking piece to the second interlocking piece is a snap-lock connection in which the first and second corresponding members consist of a prong having a pin or ridge and an opening into a chamber such that when the prong is pushed through the opening and into the chamber, the pin or ridge engages within the chamber, and secures the first interlocking piece to the second interlocking piece.

4. The kit of claim 1 in which the means for connecting the first interlocking piece to the second interlocking piece is a press-fit connection in which the first and second corresponding members consist of a prong and an opening which has a size such that when the prong is pushed into the opening, the first and second interlocking pieces are secured to each other.

5. The kit of claim 1 in which the means for connecting the first interlocking piece to the second interlocking piece is a screw connection in which the first and second corresponding members consist of a prong having an external thread and a threaded opening by which the prong may be screwed into the opening, thus securing the first interlocking piece to the second interlocking piece.

6. The kit of claim 1 wherein said interlocking pieces include a pattern of grids onto which the blocks may be aligned.

7. The kit of claim 1 wherein said first and second interlocking pieces include a pattern of grids onto which the blocks may be aligned and said grids are coded to receive said blocks having a particular color at particular spaces on said grids.

8. The kit of claim 1 further comprising an assembly tool having a cavity with dimensions such that the cavity is capable of partially enveloping and holding one of said blocks.

9. The kit of claim 1 in which said blocks are made of

resilient material.

10. The kit of claim 1 in which the first and second interlocking pieces comprise planar surfaces at right degree angles.

11. The kit of claim 1 further comprising a base structure on which a plurality of said blocks may be secured and upon which said three-dimensional mosaic structure may be secured.

12. The kit of claim 1 in which at least one of said interlocking pieces contains a module capable of emitting sound, light, heat, or vibrations in response to an outside input.

13. The kit of claim 1 in which at least one of said blocks contains thermochromic pigment.

14. The kit of claim 1 in which:

the means for connecting the first interlocking piece to the second interlocking piece is a twist-lock connection in which the first and second corresponding members consist of a prong and pin and an opening into a chamber such that when the prong and pin are inserted through the opening into the chamber, and when first interlocking piece is rotated relative to the second interlocking piece, the male and female interlocking pieces become secured to each other;
the first and second interlocking pieces comprise planar surfaces at right degree angles; and
wherein said first and second interlocking pieces include a pattern of grids onto which the blocks may be aligned.

15. The kit of claim 1 in which:

the means for connecting the first interlocking piece to the second interlocking piece is a snap-lock connection in which the first and second corresponding members consist of a prong having a pin or ridge and an opening into a chamber such that when the prong is pushed through the opening and into the chamber, the pin or ridge engages within the chamber, and secures the first interlocking piece to the second interlocking piece;
the first and second interlocking pieces comprise planar surfaces at right degree angles; and
wherein said first and second interlocking pieces include a pattern of grids onto which the blocks may be aligned.

16. The kit of claim 1 in which:

the means for connecting the first interlocking piece to the second interlocking piece is a press-fit connection in which the first and second corresponding members consist of a prong and an opening such that when the prong is pushed into the opening, the first and second interlocking pieces are secured to each other;
the first and second interlocking pieces comprise planar surfaces at right degree angles; and
wherein said first and second interlocking pieces include a pattern of grids onto which the blocks may be aligned.

17. The kit of claim 1 in which:

the means for connecting the first interlocking piece to the second interlocking piece is a screw connection in which the first and second corresponding members consist of a prong having an external thread and a threaded opening by which the prong may be screwed into the opening, thus securing the first interlocking piece to the second interlocking piece;
the first and second interlocking pieces comprise planar surfaces at right degree angles; and
wherein said first and second interlocking pieces include a pattern of grids onto which the blocks may be aligned.

18. A kit comprising:

a) a plurality of magnetized blocks having a plurality of colors and having a thickness dimension;
b) a first interlocking piece and a second interlocking piece, both of which are made from a material that is attracted to magnets;
c) said first interlocking piece having a protuberance having a first corresponding member of a means for connection the first interlocking piece to the second interlocking piece, said protuberance having a height dimension equal to said thickness dimension of said blocks; and
d) said second interlocking piece having a second corresponding member of the means for connection the first interlocking piece to the second interlocking piece
e) further in which said first and second interlocking pieces comprise planar surfaces at right degree angles; and
f) whereby the blocks are affixed to said male and female interlocking pieces via magnetic attraction, in a desired pattern.

19. A kit comprising:

a) a plurality of blocks made of a material attracted to magnets and having a plurality of colors and further having a thickness dimension;

b) a first interlocking piece having a protuberance having a height dimension equal to said thickness dimension of said blocks;
c) a second interlocking piece;
d) in which said first and second interlocking pieces are magnetized;
e) further in which said first and second interlocking pieces comprise planar surfaces at right degree angles;
e) whereby the blocks are affixed to said male and female interlocking pieces via magnetic attraction in a desired pattern;
f) and further whereby the protuberance may be connected to the second interlocking piece via magnetic attraction.

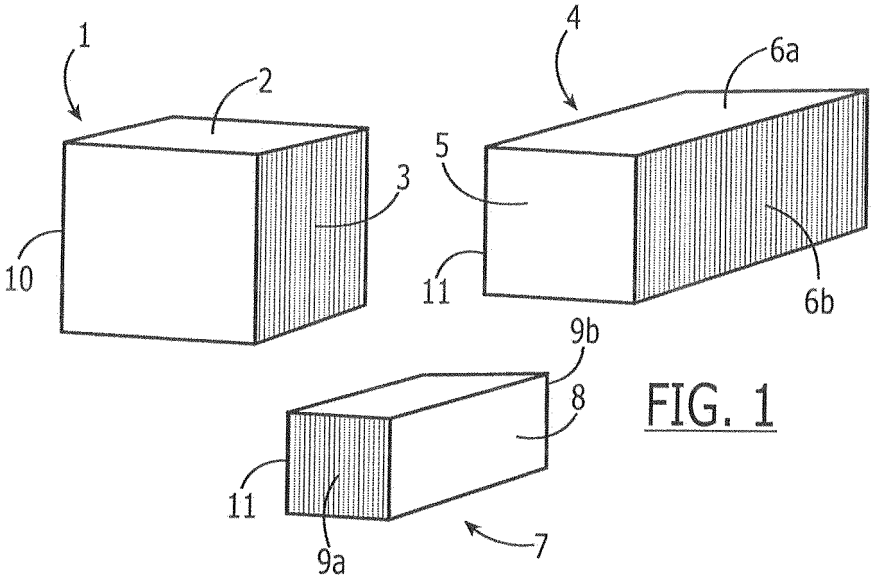

FIG. 1

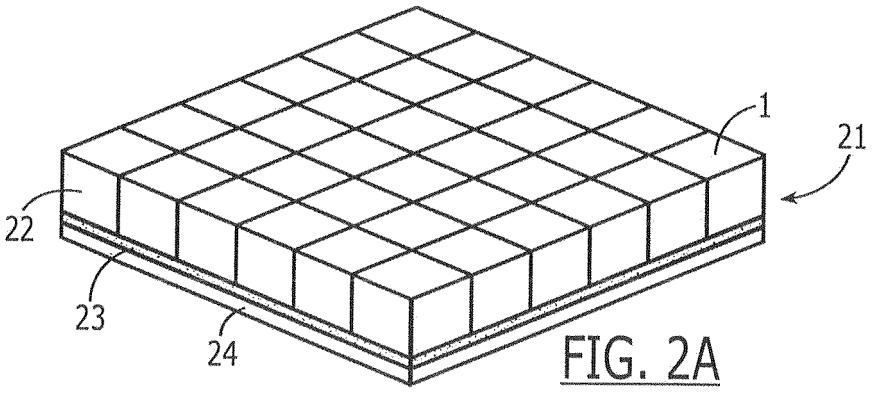

FIG. 2A

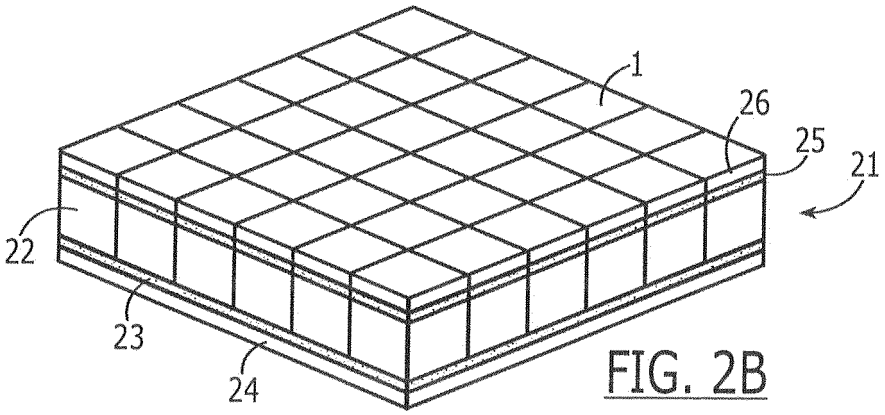

FIG. 2B

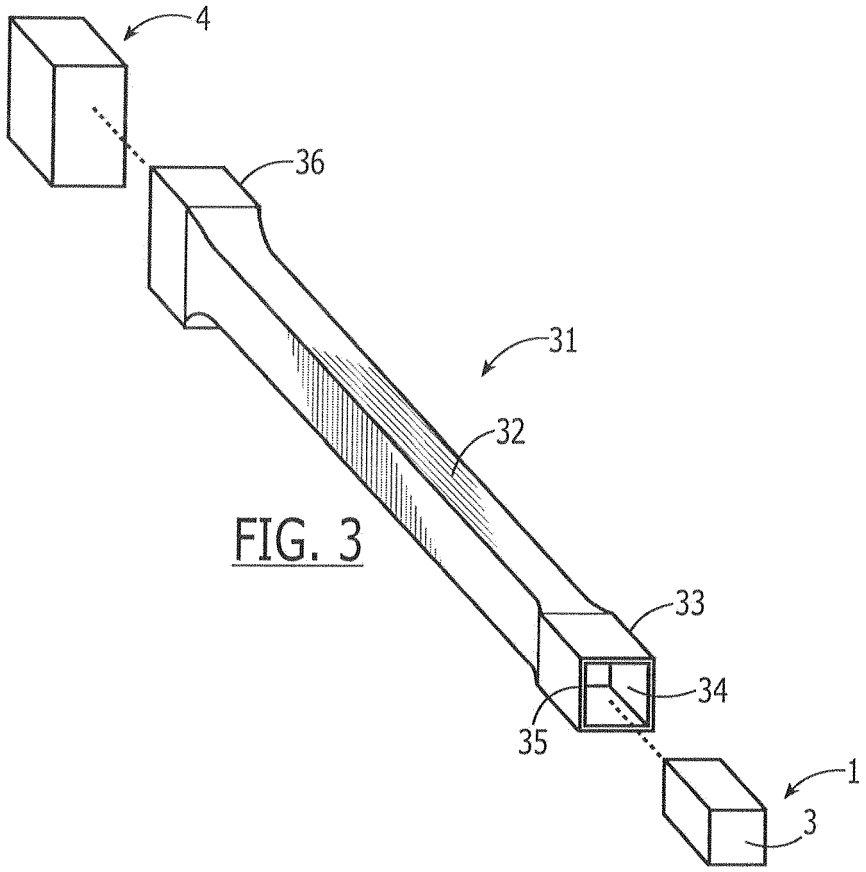

FIG. 3

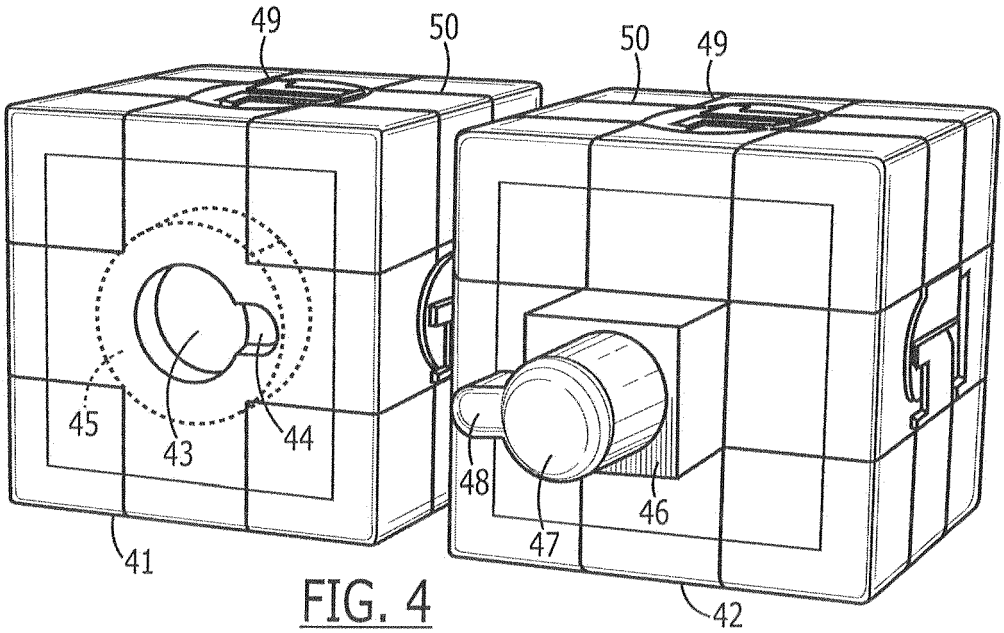

FIG. 4

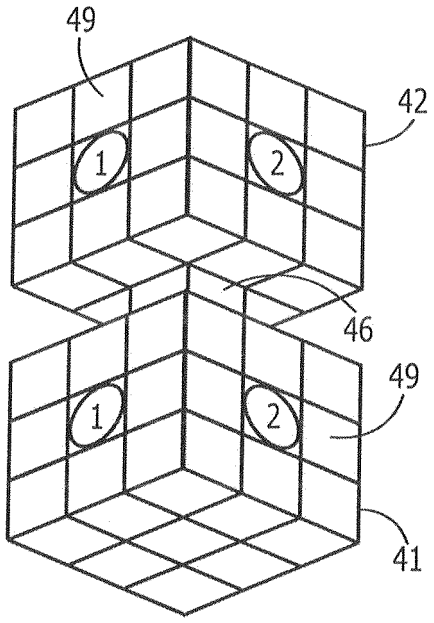

FIG. 5

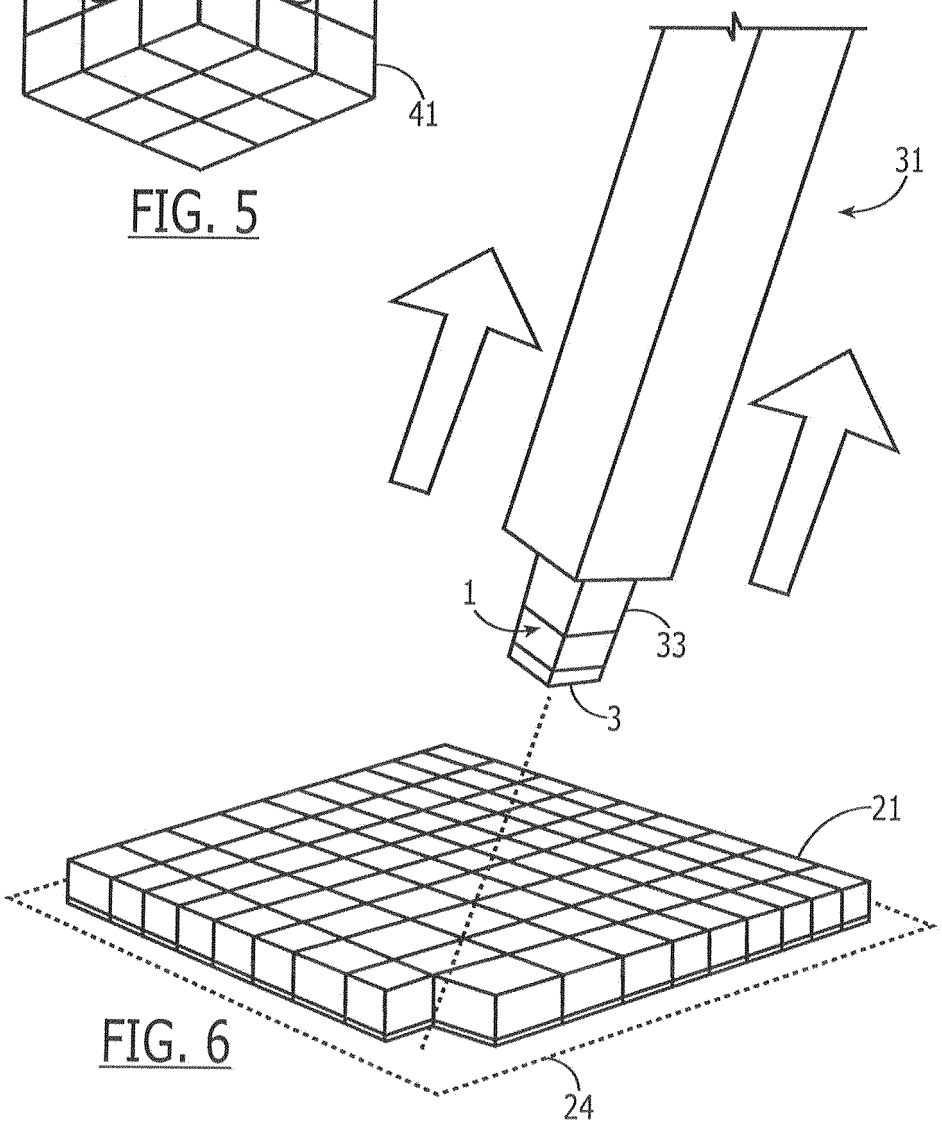

FIG. 6

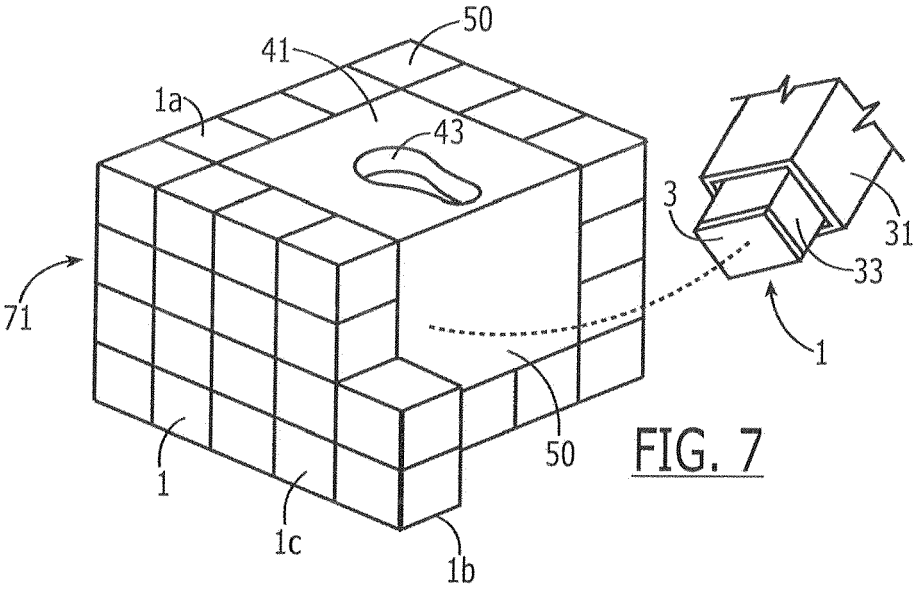

FIG. 7

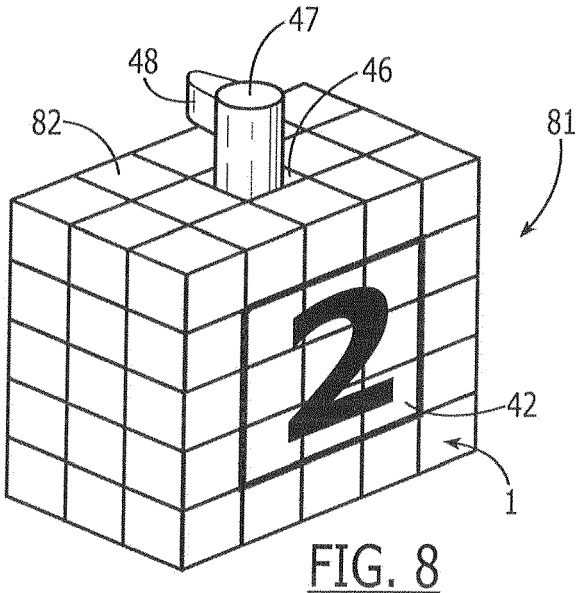

FIG. 8

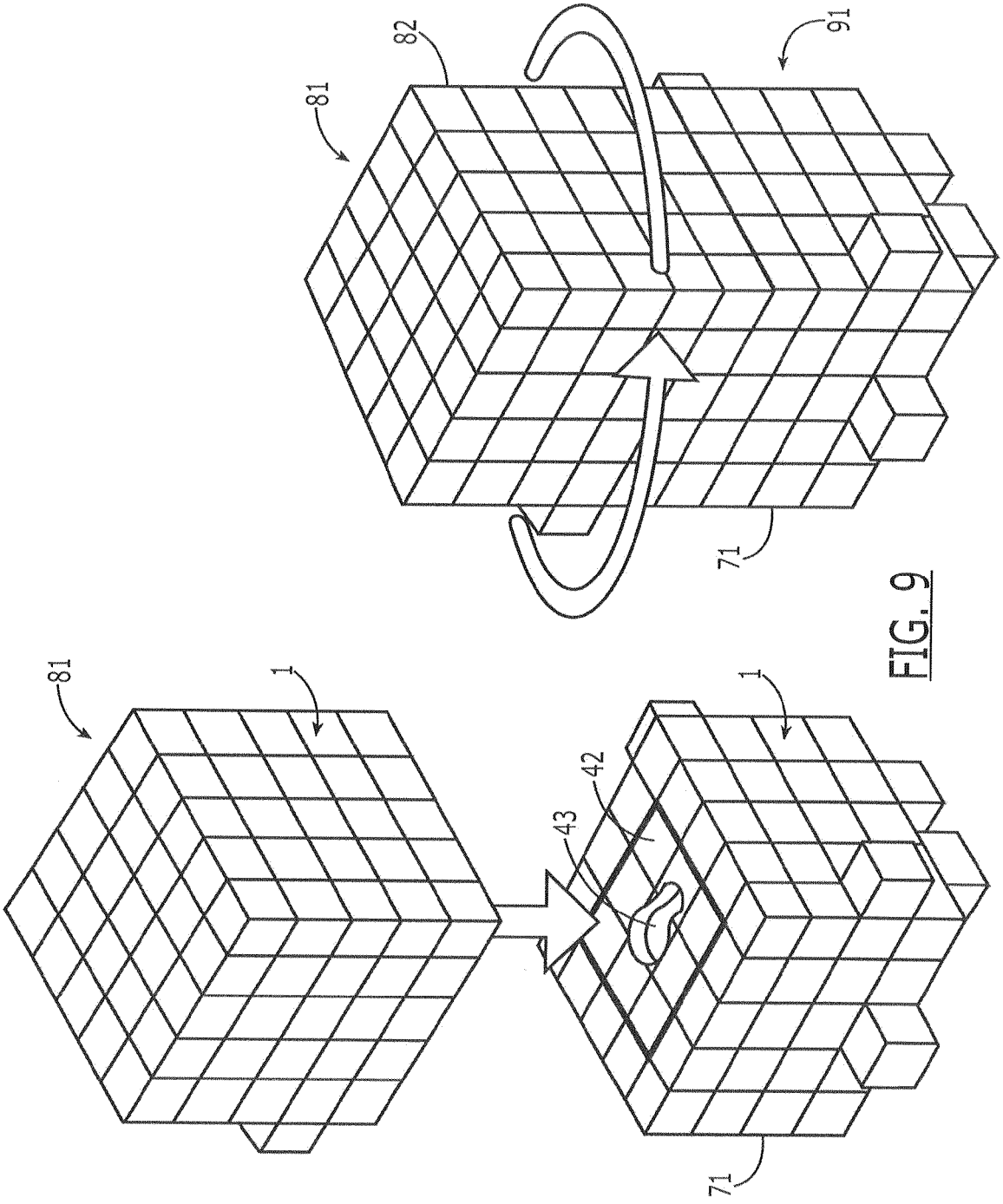

FIG. 9

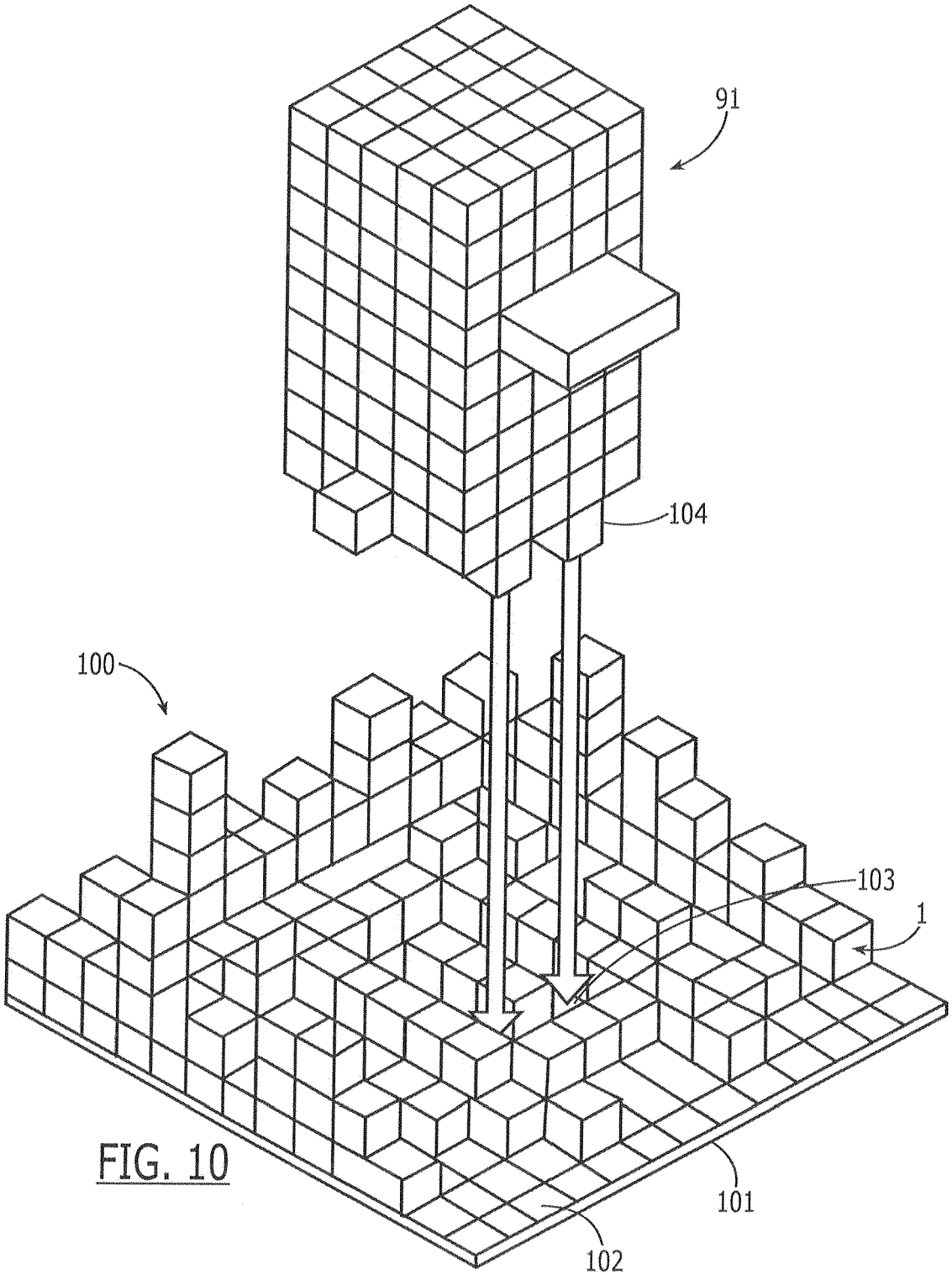

FIG. 10

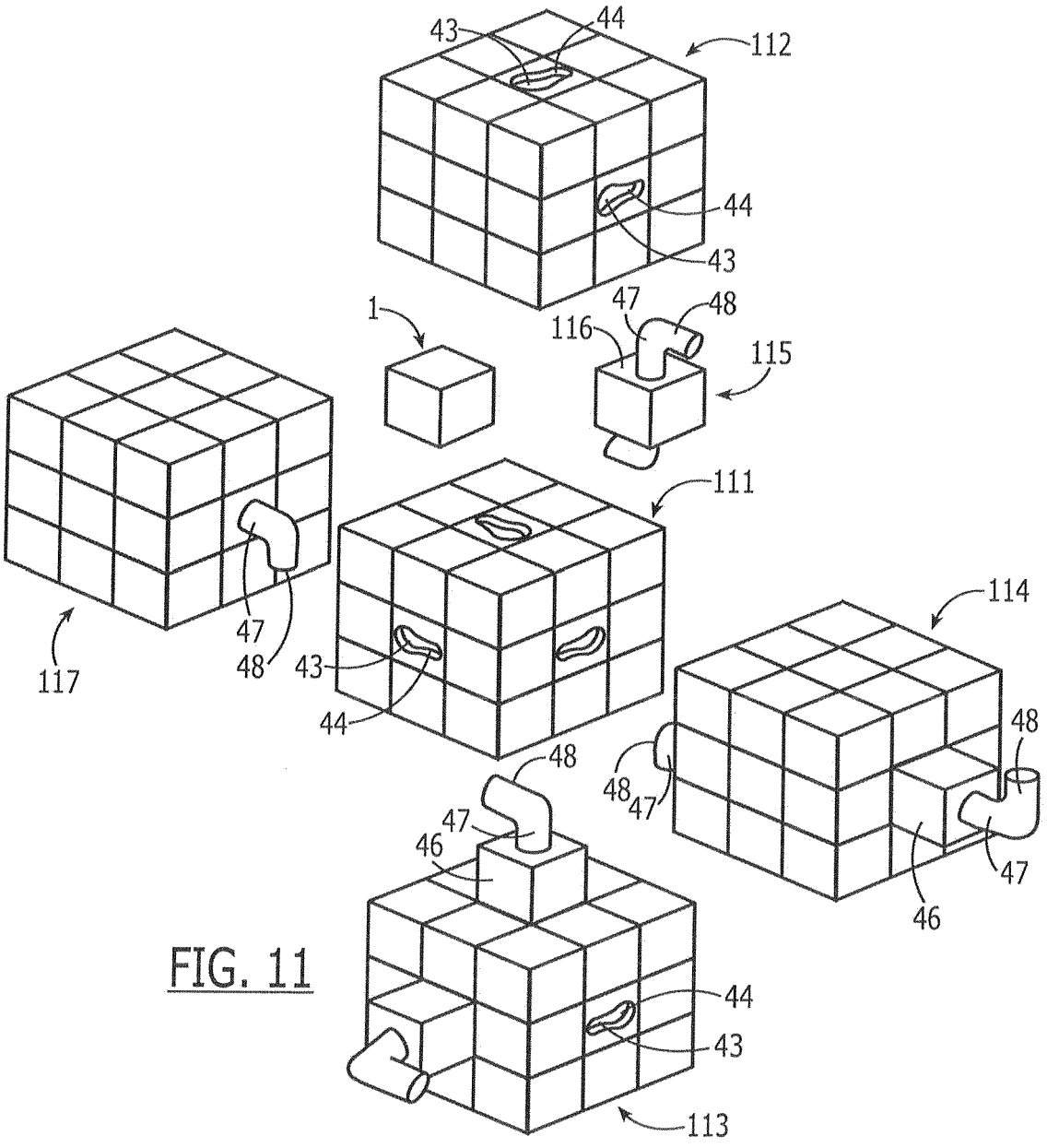
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FIG. 11

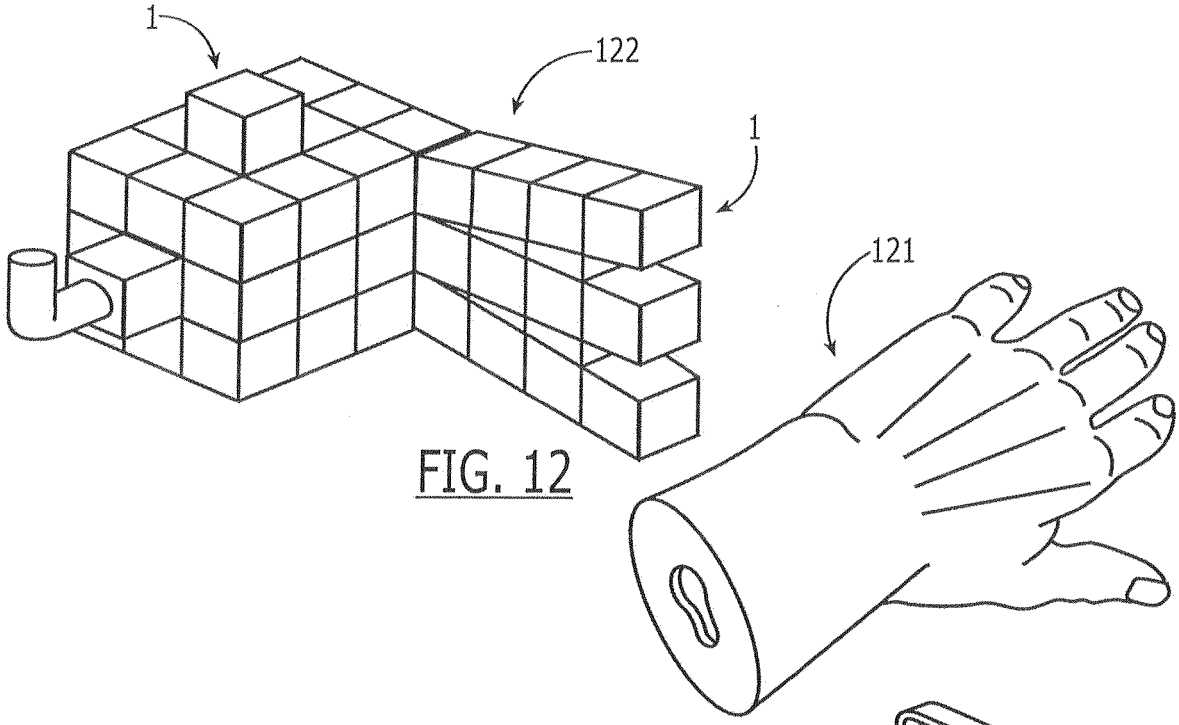

FIG. 12

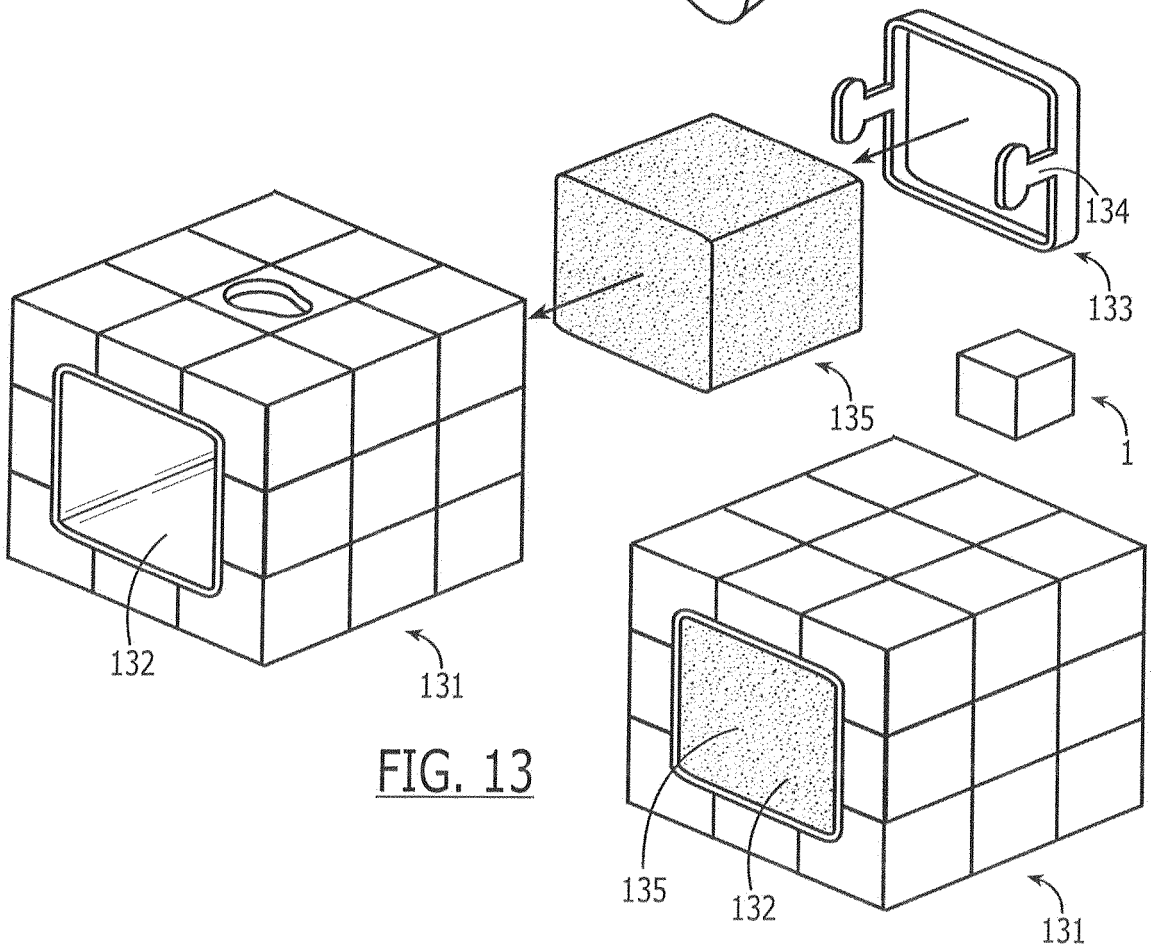

FIG. 13