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(54) TOOL HOLDING APPARATUS

(57) A tool holding apparatus includes a socket holder and at least one retaining knob. The socket holder is configured as an elongated body, wherein at least one channel that traverses into the elongated body is extended along the elongated body. The retaining knob that receives a drive socket or other similar tool apparatus includes a male body, a pedestal, and a base. The male body is adjacently connected the pedestal. The base is adjacently connected to the pedestal, opposite of the male body. The base and the pedestal are slidably engaged within the channel, and the male body is externally positioned to the elongated body thus allowing the engagement between the socket holder and the retaining knob. At least one magnet or a spring loaded ball is respectively integrated into the elongated body or the male body to securely attach a drive socket to the tool holding apparatus.

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Description

FIELD OF THE INVENTION

[0001] The present invention relates generally to a storage apparatus, particularly a storage apparatus that utilizes magnets and fastening mechanisms to retain nuts, drive sockets, or other similar articles.

BACKGROUND OF THE INVENTION

[0002] Storing of fastening components, drive sockets, or other similar articles can be difficult. The lack of simple and well-organized storage apparatus gives rise to confusion and difficulty for the user. Presently, tool storage apparatus particularly those suited for holding the drive sockets of a conventional ratchet set or similar is restricted to the one a user receives at the purchase of the particular drive socket set, or elsewise providing a disadvantageous surplus of storage space. Furthermore, the drive sockets are subject to becoming dislodged when the tool storage apparatus is positioned at an angle since the drive sockets are properly secured to the tool storage apparatus.

[0003] It is therefore an objective of the present invention to provide a tool holding apparatus to store the fastening components, drive sockets, or other similar articles. Simultaneously, the fastening components, drive sockets, or other similar articles can be securely fastened to the tool holding apparatus by utilizing a magnet or a fastening mechanism. Thus, the present invention functions as an all in one tool holding apparatus for storage of the fastening components, drive sockets, or other similar articles with a retaining means (a magnet or a fastening mechanism) that is integrated into the tool holding apparatus, without limiting the user's ability to retrieve a corresponding stored article from the tool holding apparatus.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004]

FIG. **1** is a perspective view of the present invention.
FIG. **2** is an exploded view of the present invention.
FIG. **3** is a side view of the present invention without the first and second end caps and showing the positioning of the at least one magnet.
FIG. **4** is a side view of the socket holder of the present invention.
FIG. **5** is a side view of the retaining knob, wherein the pedestal is configured into the rectangular shaped body and the base is configured into the pair of curved tracks.
FIG. **6** is a perspective view of the retaining knob, wherein the pedestal is configured into the rectangular shaped body and the base is configured into the pair of curved tracks.
FIG. **7** is a side view present invention, showing the engagement between the socket holder and the retaining knob shown in FIG. **5-6.**
FIG. **8** is a side view of the retaining knob, wherein the pedestal is configured into the circular shaped body and the base is configured into the annular body and the at least one locking riser.
FIG. **9** is a perspective view of the retaining knob, wherein the pedestal is configured into the circular shaped body and the base is configured into the annular body and the at least one locking riser.
FIG. **10** is a side view present invention, showing the engagement between the socket holder and the retaining knob shown in FIG. **8-9.**
FIG. **11** is a perspective view of the retaining knob, wherein the pedestal is configured into the rectangular shaped body, the base is configured into the pair of curved tracks, the square body is the male body of the retaining knob, and the spring loaded ball is integrated into the male body.
FIG. **12** is a perspective view of the retaining knob, wherein the pedestal is configured into the circular shaped body, the base is configured into the annular body and the at least one locking riser, the square body is the male body of the retaining knob, and the spring loaded ball is integrated into the male body.
FIG. **13** is a perspective view of an alternative embodiment of the socket holder of the present invention.
FIG. **14** is a perspective view of another alternative embodiment of the socket holder of the present invention.
FIG. **15** is a perspective view of another alternative embodiment of the socket holder of the present invention.

DETAIL DESCRIPTIONS OF THE INVENTION

[0005] All illustrations of the drawings are for the purpose of describing selected versions of the present invention and are not intended to limit the scope of the present invention.

[0006] The present invention is a tool holding apparatus for preferably storing traditional drive socket or any other types of similar tools. The present invention is also able to securely attach with the drive socket to prevent accidental dislodging of the stored drive socket. In reference to FIG. **1-3,** the present invention comprises a socket holder **1** and at least one retaining knob **13.** The socket holder **1** functions as a platform to secure the retaining knob **13** and comprises an elongated body **2** and at least one channel **4.** The retaining knob **13** functions as a supporting member to place the drive socket and comprises a male body **14,** a pedestal **15,** and a base **18.**

[0007] In reference to the general configuration of the present invention, as shown in FIG. **1-3** and FIG. **13-15,** the channel **4** traverses into the elongated body **2** and is

extended along the elongated body **2.** In other words, the channel **4** is longitudinally positioned along the elongated body **2** from one end to the other end. The channel **4** enables the retaining knob **13** to be engaged and slide along the elongated body **2** thus enabling the drive socket to be secured to the retaining knob **13.** More specifically, the male body **14** is adjacently connected to the pedestal **15.** The base **18** is adjacently connected to the pedestal **15** and positioned opposite of the male body **14.** In reference to the engagement between the retaining knob **13** and the socket holder **1,** the base **18** and the pedestal **15** are slidably engaged within the channel **4** as the male body **14** is externally positioned to the elongated body **2.** An overall diameter of the male body **14** is also larger than a diameter of the pedestal **15** or the base **18.** Resultantly, the male body **14** is able to provide sufficient surface area to securely attach the drive socket or to operate the retaining knob **13** within the present invention.

[0008] The socket holder **1** resembles a slick low-profile ergonomic design but can be of any other shape or form, wherein the elongated body **2** is generally formed into a rectangular shaped body. The socket holder **1** is made into an ergonomic shape body with radius corners to eliminate sharp corners and enhance user's comfort and safety. The channel **4** comprises a channel base **5,** a first channel wall **6,** and a second channel wall **7** as shown in FIG. **4.** More specifically, the channel base **5** is positioned parallel to a top surface **3** of the elongated body **2** functions as the bottom surface of the channel **4** so that the base **18** of the retaining knob **13** can be slidably positioned atop the channel base **5.** The first channel wall **6** and the second channel wall **7** are oppositely positioned of each other about the channel base **5** thus delineating the width of the channel **4.** The first channel wall **6** and the second channel wall **7** are extended from the channel base **5** to the top surface **3** so that the height of the channel **4** can be defined within the present invention. The channel base **5** may have relief groves to further assist movement and resist binding of the retaining knob **13** when the retaining knob **13** is moved within the channel **4.**

[0009] In some embodiments of the present invention, the socket holder **1** has a modular system whereby plurality of socket holders **1** can be added together by a connecting mechanism. The connecting mechanism preferably reside on the exterior lateral walls of the socket holder **1** thus creating a modular system and giving the user the flexibility of connect each of the plurality of socket holders **1** into the desired size to fit the user's needs.

[0010] The profile of the first channel wall **6** and the second channel wall **7** are essential within the present invention so that the retaining knob **13** can be fully operational. In reference to FIG. **4,** the first channel wall **6** and the second channel wall **7** each comprises a top linear section **8,** a top curve section **9,** a bottom linear section **10,** and a bottom curve section **11.** More specifically, the top linear section **8** is positioned perpendicular to the top surface **3** and outlines the opening of the channel **4.** The top curve section **9** is adjacently positioned to the top linear section **8** and outwardly oriented from the top linear section **8.** In other words, a bottom diameter between the top curve section **9** of the first channel wall **6** and the second channel wall **7** is greater than a top diameter between the top linear section **8** of the first channel wall **6** and the second channel wall **7.** The bottom linear section **10** is adjacently positioned to the top curve section **9** and positioned opposite of the top linear section **8,** wherein a diameter between the bottom linear section **10** of the first channel wall **6** and the second channel wall **7** is equal to the bottom diameter between the top curve section **9** of the first channel wall **6** and the second channel wall **7.** Furthermore, the top linear section **8** and the bottom linear section **10** are positioned parallel to each other. The bottom curve section **11** is adjacently positioned to the bottom linear section **10** and positioned opposite of the top curve section **9,** wherein the bottom curve section **11** is inwardly oriented toward the channel base **5.** In other words, a bottom diameter between the bottom curve section **11** of the first channel wall **6** and the second channel wall **7** is smaller than the diameter between the bottom linear section **10** of the first channel wall **6** and the second channel wall **7.**

[0011] Due to the fact that the male body **14,** a pedestal **15,** and a base **18** are configured as one piece and functions coincidentally, when the retaining knob **13** is turned to a locked position or an unlocked position, all components of the retaining knob **13** move in the same direction, and or either towards or away from the channel base **5.**

[0012] In some embodiments of the retaining knob **13,** the pedestal **15** is delineated into a rectangular body **16,** and the base **18** is delineated into a pair of curved tracks **19** as shown in FIG. **5-7.** More specifically, the pair of curved tracks **19** is laterally connected along the rectangular body **16** and oriented outward from the rectangular body **16,** wherein the pair of curved tracks **19** is a pair of convex shaped structures. The rectangular body **16** is slidably engaged in between the top linear section **8** of the first channel wall **6** and the top linear section **8** of the second channel wall **7** since the base **18** slidably sits on top of the channel base **5.** As a result, the pair of curved tracks **19** is engaged in between the top curve section **9,** the bottom curve section **11,** and the bottom linear section **10** of the first channel wall **6** and the top curve section **9,** the bottom curve section **11,** and the bottom linear section **10** of the second channel wall **7.** Due to the engagement of the pair of curved tracks **19,** the retaining knob **13** is able to slidably engage with the socket holder **1.** In this embodiment, the retaining knob **13** freely slides along the channel **4** and does not allow to be locked in place upon user's preference.

[0013] In some embodiments of the retaining knob **13,** the pedestal **15** is delineated into a circular body **17,** and the base **18** comprises an annular body **20** and at least one locking riser **21** as shown in FIG. **8-10.** More speci-

fically, the at least one locking riser **21** is radially positioned around the annular body **20** and perimetrically connected around the annular body **20.** The annular body **20** is required for the retaining knob **13** to be able to be turned from the locked position to the unlocked position or vice versa as a square, rectangular or angular shaped base cannot be rotated due to the jamming affect within the channel **4.** Preferably, the at least one locking riser **21** is oriented toward the male body **14** and radially positioned around the circular body **17.** However, the at least one locking riser **21** can also be oriented away from the male body **14** in such a way that the at least one locking riser **21** is radially connected around a bottom surface of the annular body **20.** For example, a first riser and a second riser of the at least one locking riser **21** are positioned 180 degrees from each other. Furthermore, the at least one locking riser **21** can also be oriented radially outward from the male body **14** in such a way that the at least one locking riser **21** is laterally connected around a lateral surface of the annular body **20.** The circular body **17** is rotatably engaged in between the top linear section **8** of the first channel wall **6** and the top linear section **8** of the second channel wall **7** since the base **18** slidably sits on top of the channel base **5.**

[0014] In reference to the preferred positioning of the at least one locking riser **21,** the at least one locking riser **21** is selectively engaged in between the top curve section **9** of the first channel wall **6** and the top curve section **9** of the second channel wall **7.** Furthermore, the annular body **20** is positioned in between the bottom linear section **10** and the bottom curve section **11** of the first channel wall **6** and the bottom linear section **10** and the bottom curve section **11** of the second channel wall **7.**

[0015] In reference to the first alternative positioning of the at least one locking riser **21,** the at least one locking riser **21** is selectively engaged in between the bottom curve section **11** of the first channel wall **6** and the bottom curve section **11** of the second channel wall **7.** Furthermore, the annular body **20** is positioned in between the bottom linear section **10** and the top curve section **9** of the first channel wall **6** and the bottom linear section **10** and the top curve section **9** of the second channel wall **7.** It is further understood that the engaging function creates a clamping affect to the top curve sections **9** of the first channel wall **6** and the bottom linear section **10** with the at least one locking riser **21** and the top surface **3** of the elongated body **2** with a bottom surface of the male body **14.**

[0016] In reference to the second alternative positioning of the at least one locking riser **21,** the at least one locking riser **21** is selectively engaged in between the bottom linear section **10** of the first channel wall **6** and bottom linear section **10** of the second channel wall **7.** Furthermore, the annular body **20** is positioned in between the bottom linear section **10** and the bottom curve section **11** of the first channel wall **6** and the bottom linear section **10** and the bottom curve section **11** of the second channel wall **7.**

[0017] In reference to the third alternative positioning of the at least one locking riser **21,** the at least one locking riser **21** is selectively engaged with a grove on the channel base **5.** More specifically, the grove engages with the at least one locking riser **21** as the at least one locking riser **21** is located at a base of the annular body **20** and is in the unlocked position.

[0018] Due to the engagement of the annular body **20** and the at least one locking riser **21,** the retaining knob **13** is able to slidably engage with the socket holder **1.** In this embodiment, the retaining knob **13** freely slides along the channel **4** and does allow to be locked in place upon user's preference.

[0019] In reference to the unlocked position as shown in FIG. **3,** the annular body **20** is engaged with the bottom linear section **10** and the bottom curve section **11** of the first channel wall **6** and the bottom linear section **10** and the bottom curve section **11** of the second channel wall **7.** The at least one locking riser **21** is aligned within the top linear section **8** of the first channel wall **6** and the top linear section **8** of the second channel wall **7.** As a result, the at least one locking riser **21** does not engage with any parts of the channel **4** thus allowing the retaining knob **13** to slide along the channel **4** as the annular body **20** is engaged within the bottom linear section **10** and the bottom curve section **11** of the first channel wall **6** and the bottom linear section **10** and the bottom curve section **11** of the second channel wall **7.**

[0020] In reference to the locked position as shown in FIG. **10,** the annular body **20** is engaged with the bottom linear section **10** and the bottom curve section **11** of the first channel wall **6** and the bottom linear section **10** and the bottom curve section **11** of the second channel wall **7.** The at least one locking riser **21** is angled in such a way so that when retaining knob **13** is turned into the locking function the at least one locking riser **21** pushes against the first channel wall **6** and the second channel wall **7** thus increasing friction and thereby locking the retaining knob **13** in the desired fixed position. More specifically, the at least one locking riser **21** is positioned adjacent and below the top curve section **9** of the first channel wall **6** and the top curve section **9** of the second channel wall **7.** As a result, the at least one locking riser **21** is able to frictionally engage with the first channel wall **6** and the second channel wall **7** thus allowing the retaining knob **13** to locked within the channel **4.** In other words, the unlocked position allows the user to grasp and slide the retaining knob **13** along the channel **4.** When the retaining knob **13** need to be locked within a specific place within the channel **4,** the user simply rotates the male body **14** that simultaneously initiates the engagement between the at least one locking riser **21** and the top curve section **9** of the first channel wall **6** and the top curve section **9** of the second channel wall **7.**

[0021] When the retaining knob **13** is turned between approximately 1 degrees to 180 degrees clockwise from the unlocked position, the at least one locking riser **21** is engaged and locked with the top curve section **9** of the

first channel wall **6** and the top curve section **9** of the second channel wall **7.** When the retaining knob **13** is turned between approximately 1 degrees to 180 degrees counterclockwise from the locked position, the at least one locking riser **21** is disengaged and unlocked from the top curve section **9** of the first channel wall **6** and the top curve section **9** of the second channel wall **7.** In reference to a preferred example, when the retaining knob **13** is turned between approximately 30 degrees to 90 degrees clockwise from the unlocked position, the at least one locking riser **21** is engaged and locked with the top curve section **9** of the first channel wall **6** and the top curve section **9** of the second channel wall **7.** When the retaining knob **13** is turned between approximately 30 degrees to 90 degrees counterclockwise from the locked position, the at least one locking riser **21** is disengaged and unlocked from the top curve section **9** of the first channel wall **6** and the top curve section **9** of the second channel wall **7.** Alternatively, the retaining knob **13** can also be rotated in reverse direction to delineate the same functionality with respect to the locked position and the unlocked position. It is understood that for the retaining knob **13** to function in reverse, the at least one locking risers **21** would need to be reversed on the base **18** so that they would function to lock the retaining knob **13** when rotated in a counter clockwise rotation and unlock the retaining knob **13** when rotated in the clockwise rotation. The preferred number of the at least one locking risers **21** is two risers.

[0022] In reference to FIG. **8,** the at least one locking riser **21** comprises a tapered surface **32,** a counterclockwise surface **33,** and a clockwise surface **34.** More specifically, the at least one locking riser **21** is designed in such a way that the clockwise surface **34** is lower than the counterclockwise surface **33** so that the tapered surface **32** can be delineated from the clockwise surface **34** to the counterclockwise surface **33.** In other words, because of the tapered surface **32,** the clockwise surface **34** enters into the curved section **9** of the first channel wall 6 and the second channel wall **7** when the retaining knob **13** is turned clockwise to initiate the locked position. As the retaining knob **13** is turned clockwise, the tapered surface **32** moves towards the curved section **9** of the first channel wall **6** and the second channel wall **7** and generates the locked position until the counterclockwise surface **33** reaches near the curved section **9** of the first channel wall **6** and the second channel wall **7.** The tapered surface **32** can be designed according to the user's preference, further enabling retaining knob **13** to lock and unlock in a unidirectional rotation if desired. Furthermore, the locking riser taper may comprise a flat surface that is not tapered as the flat surface can be positioned in between the tapered surface **32** and the counterclockwise surface **33.** All of the components would be reversed in a reverse embodiment.

[0023] The present invention further comprises a void **35** as shown in FIG. **3.** More specifically, the void **35** is positioned between the counterclockwise surface **33** and the clockwise surface **34** when the at least one locking risers **21** is two risers. The void **35** is designed to assist in preventing the binding of the base **18** when in unlocked position. During the unlocked position the void **35** is positioned in the channel **4** as shown in FIG. **3** allowing for a loose engagement within the top curve section **9,** the bottom linear section **10,** and the bottom curve section **11** of the first channel wall **6** and the second channel wall **7** to allow for easy sliding and binding prevention.

[0024] In some embodiments of the retaining knob **13,** the pedestal **15** and the base **18** can be incorporated with an external spiral threaded body that functions similar to the preferred method, wherein the at least one locking riser **21** is oriented toward the male body **14** and radially positioned around the circular body **17.**

[0025] In some embodiment of the present invention, the male body **14** can be formed into a cylindrical body as shown in FIG. **6** and FIG. **9.** More specifically, the cylindrical body functions as the supporting body for the drive socket as the opening of the drive socket is encircled around the male body **14.** Furthermore, a free end of the cylindrical body delineates a dome shape so that the opening of the drive socket can be concentrically guided and placed around the male body **14.** More specifically, the present invention further comprises a dome structure **30** that is concentrically positioned to the cylindrical body. The dome structure **30** is adjacently connected to the cylindrical body and positioned opposite of the pedestal **15** as shown in FIG. **5-6.** Furthermore, a plurality of ribs **24** is radially connected around the cylindrical body in order to enhance the friction between the male body **14** and the user's hand. In reference to FIG. **8-9,** the plurality of ribs **24** is vertically extended along the cylindrical body and stops about the dome structure. Furthermore, each of the plurality of ribs **24** is delineate a half-cylindrical body with a curved outer surface rather than sharp edges for smoother ergonomic feel. Optionally, the plurality of ribs **24** can be replaced with a knurling pattern in order to enhance the friction between the male body **14** and the user's hand. In some embodiment of the present invention, the male body **14** can be formed into a square body as shown in FIG. **11-12.** More specifically, the square body functions as the supporting body for the drive socket as the opening of the drive socket is perimetrically fitted around the male body **14.** Furthermore, a free end of the square body delineates a dome shape so that the opening of the drive socket can be concentrically guided and placed around the male body **14.** More specifically, the present invention further comprises a dome structure **31** that is concentrically positioned to the square body. The dome structure **31** is adjacently connected to the square body and positioned opposite of the pedestal **15** as shown in FIG. **11-12.**

[0026] In some embodiment of the present invention can comprise a spring loaded ball **22** as a locking mechanism to hold the drive socket in place with the retaining knob **13.** In reference to FIG. **11-12,** the spring loaded ball **22** is laterally integrated into the male body **14** so that

the drive socket can be removably secured to the retaining knob **13** by the spring loaded ball **22.** Furthermore, the spring loaded ball **22** can be integrated into the male body **14** that can be the cylindrical body or the square body thus allowing the male body **14** to tensionally engaged with the drive socket.

[0027] In some embodiment of the present invention can comprise at least one magnet **23** and at least one opening **12** as shown in FIG. **3** and FIG. **15.** The magnet **23** and the opening **12** function as a locking mechanism so that the drive socket can be removably secured to the retaining knob **13.** More specifically, the opening **12** traverses through the elongated body **2** and extended along the elongated body **2.** The opening **12,** preferably a rectangular shape, is positioned adjacent to the channel **4** so that the functionality of the channel **4** is not hindered or limited within the present invention. Furthermore, the opening **12** comprises a plurality of curved corners for structural integrity thus eliminating right angled corners. As a result, the plurality of curved corners is able to reduce deflection when large and heavy objects are attached to the socket holder **1** that is longer in length. The magnet **23,** preferably a rectangular shape or equidistant shape, is concealed within the opening **12** so that the drive socket can be removably secured to the retaining knob **13** by the magnet **23.** In other words, the drive socket is able to magnetically attach to the socket holder **1** via the magnet **23** thus preventing accidental dislodging of the drive socket. Preferably, the present invention is configured with a first opening, a second opening, a first magnet **23,** and a second magnet **23.** Resultantly, the first opening and the second opening are oppositely positioned of each other about the channel **4** thus respectively enabling the first magnet **23** and the second magnet **23** to be positioned within corresponding opening. As a result, each ferrous article attached to the socket holder **1** is magnetized by at least one north and one south magnetic polarity. Since the magnet **23** is enclosed within the elongated body **2,** the magnet **23** does not make direct contact with the drive socket or any other ferrous objects. In reference to FIG. **13-14,** the exterior lateral walls of the socket holder **1** can be extended beyond a bottom surface of the elongated body **2** thus delineating a void so that the magnet **23** can be optionally mounted within.

[0028] The present invention further comprises a first end cap **25** and a second end cap **26** as show in FIG. **2.** The first end cap **25** is attached to a first end **28** of the elongated body **2,** and the second end cap **26** is attached to a second end **29** of the elongated body **2.** The first end cap **25** and the second end cap **26** function as a pair of stopper for the channel **4** so that the retaining knob **13** does not slide out of the socket holder **1** and retainers for the at least one magnet **23.** More specifically, the first end cap **25** and the second end cap **26** each comprises a primary connector and a cover, wherein the primary connector is laterally connected onto the cover. The primary connector delineates a profile similar to a cross sectional profile of the channel **4** so that the primary connector can be traversed into the channel **4** and fiction fitted. As a result, the cover of the first end cap **25** can be pressed against the first end **28,** and the cover of the second end cap **26** can be pressed against the second end **29.** Additionally, the first end cap **25** and the second end cap **26** each can further comprise at least one secondary connector that is laterally connected to the cover. The secondary connector functions similar to the primary connector and traverses into the opening **12** thus concealing the magnet **23** within the socket holder **1.** The secondary connector can be either fiction fitted to the opening **12** or magnetically attached to the magnet **23** via the opening **12.** As a result, the secondary connector is able to fully enclose the magnet **23** with respect to the first end **28** and the second end **29.**

[0029] The present invention further comprises a handle **27** as shown in FIG. **1-2.** The handle **27** can be utilized to hang the socket holder **1.** Preferably, the handle **27** is hingedly connected to the first end cap **25** or the second end cap **26** so that the socket holder **1** can be vertically hung. However, the handle **27** can also be hingedly connected to the elongated body **2** so that the socket holder **1** can be horizontally hung.

[0030] When the socket holder **1** delineates multiple channels **4** and magnets **23,** the width of the socket holder **1** can be increased to accommodate corresponding channels **4** and magnets **23.** Furthermore, a plurality of socket holders **1** can be mounted, attached, or connected to each other so that the storage capacity can be increased for drive sockets.

[0031] Although the invention has been explained in relation to its preferred embodiment, it is to be understood that many other possible modifications and variations can be made without departing from the spirit and scope of the invention as hereinafter claimed.

ORIGINAL CLAIMS OF THE PARENT APPLICATION FORMING PART OF

THE DESCRIPTION ONLY

[0032]

1. A tool holding apparatus comprising:

a socket holder;
at least one retaining knob;
the socket holder comprising an elongated body and at least one channel;
the retaining knob comprising a male body, a pedestal, and a base;
the channel traversing into the elongated body;
the channel being extended along the elongated body;
the male body being adjacently connected the pedestal;
the base being adjacently connected to the pedestal, opposite of the male body;

the base and the pedestal being slidably engaged within the channel; and
the male body being externally positioned to the elongated body.

2. The tool holding apparatus as claimed in claim 1 comprising:

the channel comprising a channel base, a first channel wall, and a second channel wall;
the channel base being positioned parallel to a top surface of the elongated body;
the first channel wall and the second channel wall being oppositely positioned of each other about the channel base; and
the first channel wall and the second channel wall being extended from the channel base to the top surface.

3. The tool holding apparatus as claimed in claim 2 comprising:

the first channel wall and the second channel wall each comprising a top linear section, a top curve section, a bottom linear section, and a bottom curve section;
the top linear section being positioned perpendicular to the top surface;
the top curve section being adjacently positioned to the top linear section;
the bottom linear section being adjacently positioned to the top curve section, opposite of the top linear section;
the bottom curve section being adjacently positioned to the bottom linear section, opposite of the top curve section; and
the top linear section and the bottom linear section being positioned parallel to each other.

4. The tool holding apparatus as claimed in claim 1 comprising:

the pedestal being delineated into a rectangular body;
the base being delineated into a pair of curved tracks;
the pair of curved tracks being laterally connected along the rectangular body;
the rectangular body being slidably engaged in between a top linear section of the first channel wall and a top linear section of the second channel wall; and
the pair of curved tracks being engaged in between a top curve section and a bottom linear section of the first channel wall and a top curve section and a bottom linear section of the second channel wall.

5. The tool holding apparatus as claimed in claim 1 comprising:

the pedestal being delineated into a circular body;
the base comprising an annular body and at least one locking riser;
the at least one locking riser being radially positioned around the annular body;
the at least one locking riser being perimetrically connected around the annular body;
the circular body being rotatably engaged in between a top linear section of the first channel wall and a top linear section of the second channel wall;
the at least one locking riser being selectively engaged in between a top curve section and a bottom linear section of the first channel wall and a top curve section and a bottom linear section of the second channel wall; and
the annular body being engaged in between the bottom linear section and a bottom curve section of the first channel wall and the bottom linear section, and a bottom curve section of the second channel wall.

6. The tool holding apparatus as claimed in claim 1, wherein the male body is formed into a cylindrical body.

7. The tool holding apparatus as claimed in claim 6 comprising:

a dome structure;
the dome structure being concentrically positioned to the cylindrical body; and
the dome structure being adjacently connected to the cylindrical body, opposite of the pedestal.

8. The tool holding apparatus as claimed in claim 6 comprising:

a plurality of ribs; and
the plurality of ribs being radially connected around the cylindrical body.

9. The tool holding apparatus as claimed in claim 1, wherein the male body is formed into a square body.

10. The tool holding apparatus as claimed in claim 9 comprising:

a dome structure;
the dome structure being concentrically positioned to the square body; and
the dome structure being adjacently connected to the square body, opposite of the pedestal.

11. The tool holding apparatus as claimed in claim 1 comprising:

a spring loaded ball; and
the spring loaded ball being integrated into the male body, wherein a drive socket is removably secured to the retaining knob by the spring loaded ball.

12. The tool holding apparatus as claimed in claim 1 comprising:

at least one magnet;
at least one opening;
the opening traversing through the elongated body;
the opening being extended along the elongated body;
the opening being positioned adjacent to the channel; and
the magnet being positioned within the opening, wherein a drive socket is removably secured to the retaining knob by the magnet.

Claims

1. A tool holding apparatus having a socket holder (1) and at least one retaining knob (13), comprising:

the socket holder (1) comprising an elongated body (2) and at least one channel (4);
the retaining knob (13) comprising a male body (14), a pedestal (15), and a base (18);
the channel (4) traversing into the elongated body (2);
the channel (4) being extended along the elongated body (2);
the male body (14) being adjacently connected the pedestal (15);
the base (18) being adjacently connected to the pedestal (15), opposite of the male body (14);
the base (18) and the pedestal (15) being slidably engaged within the channel (4);
the male body (14) being externally positioned to the elongated body (2);
the male body (14) being formed into a square body;
the channel (4) comprising a channel base (5), a first channel wall (6), and a second channel wall (7);
the channel base (5) being positioned parallel to a top surface (3) of the elongated body (2);
the first channel wall (6) and the second channel (7) wall being oppositely positioned of each other about the channel base (5);
the first channel wall (6) and the second channel wall (7) being extended from the channel base (5) to the top surface (3);
the first channel wall (6) and the second channel wall (7) each comprising a top linear section (8), a top curve section (9), a bottom linear section (10), and a bottom curve section (11);
the top linear section (8) being positioned perpendicular to the top surface;
the top curve section (9) being adjacently positioned to the top linear section (8);
the bottom linear section (10) being adjacently positioned to the top curve section (9), opposite of the top linear section (8);
the bottom curve section (11) being adjacently positioned to the bottom linear section (10), opposite of the top curve section (9); and
the top linear section (8) and the bottom linear section (10) being positioned parallel to each other;
the square body being connected to the pedestal (15);
the base (18) comprising an annular body (20);
the male body (14), the pedestal (15), and the base (18) being formed as one piece;
the pedestal (15) being engaged in between the top linear section (8) of the first channel wall (6) and the top linear section (8) of the second channel wall (7); and
the annular body (20) being engaged in between the bottom linear section (10) and the bottom curve section (11) of the first channel wall (6) and the bottom linear section (10) and the bottom curve section (11) of the second channel wall (7).

2. The tool holding apparatus as claimed in claim 1 comprising:

a dome structure (31);
the dome structure (31) being concentrically positioned to the square body; and
the dome structure (31) being adjacently connected to the square body,
opposite of the pedestal (15).

3. The tool holding apparatus as claimed in claim 1 comprising:

a spring loaded ball (22); and
the spring loaded ball (22) being integrated into the male body (14), wherein a drive socket is removably secured to the retaining knob (13) by the spring loaded ball (22).

4. The tool holding apparatus as claimed in claim 1 comprising:

at least one magnet (23);
at least one opening (12);
the opening (12) traversing through the elon-

gated body (2);
the opening (12) being extended along the elongated body (2);
the opening (12) being positioned adjacent to the channel (4); and
the magnet (23) being positioned within the opening (12), wherein a drive socket is removably secured to the retaining knob (13) by the magnet (23).

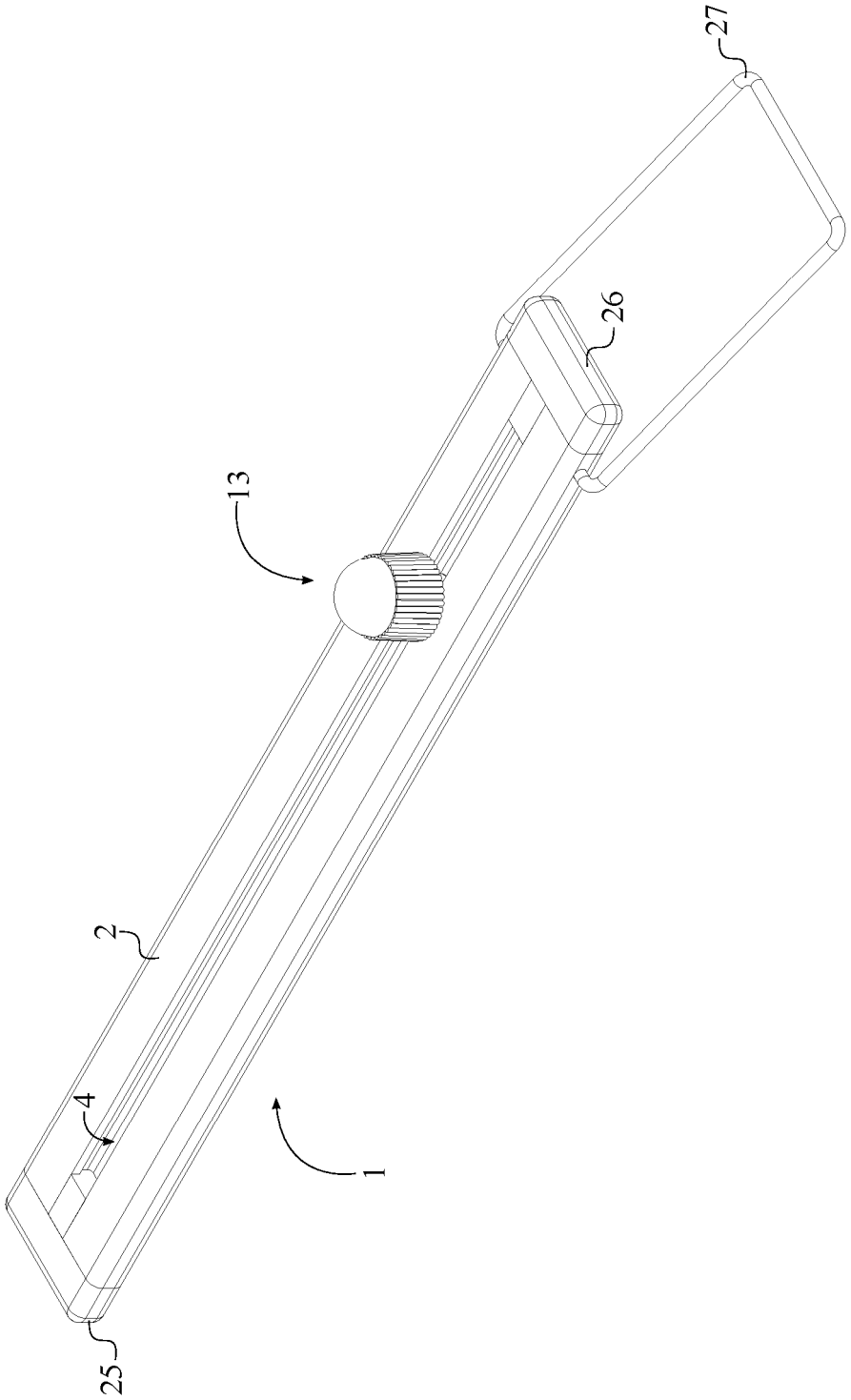


FIG. 1

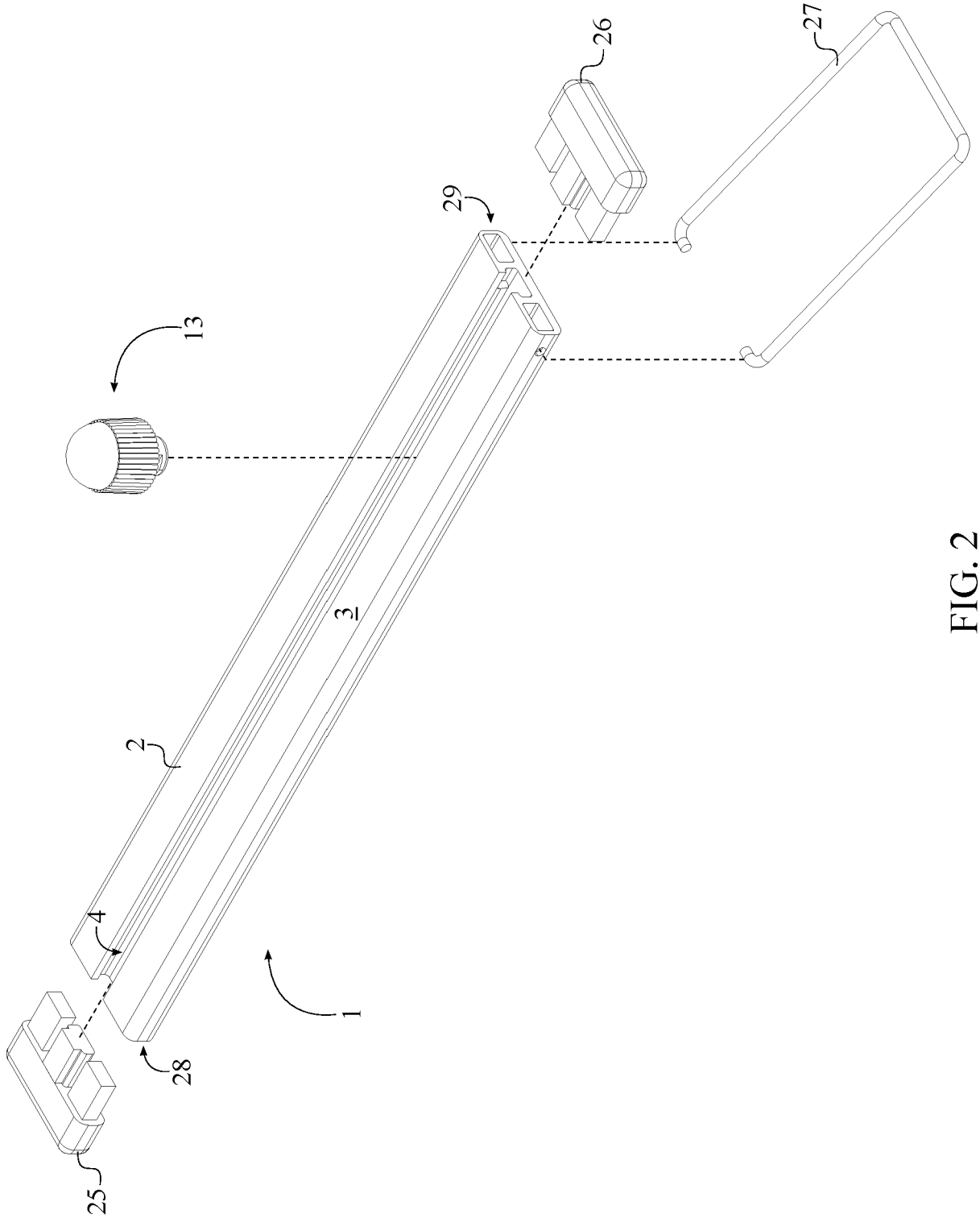


FIG. 2

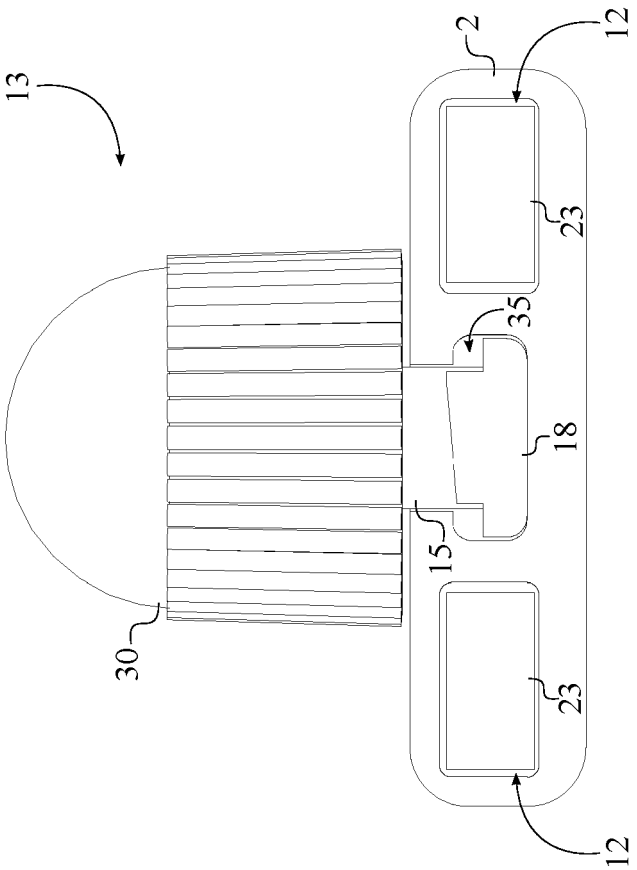


FIG. 3

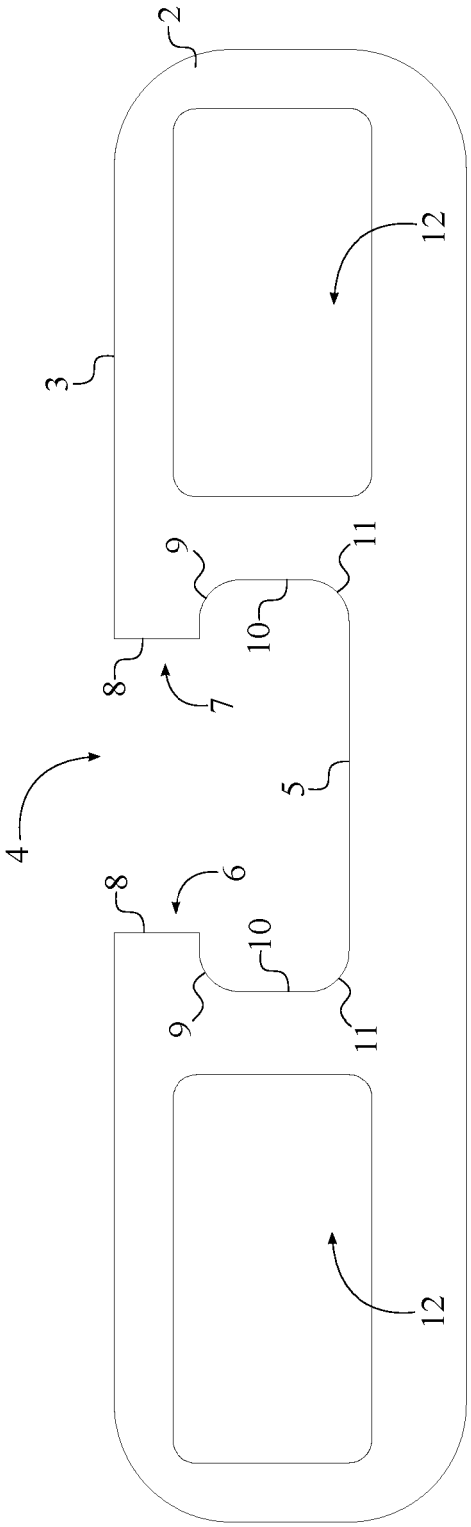


FIG. 4

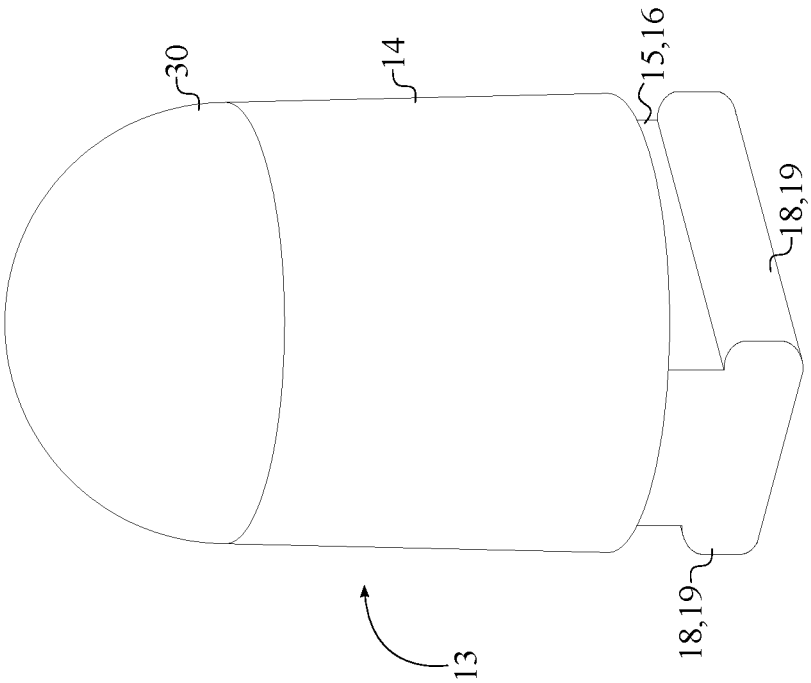


FIG. 6

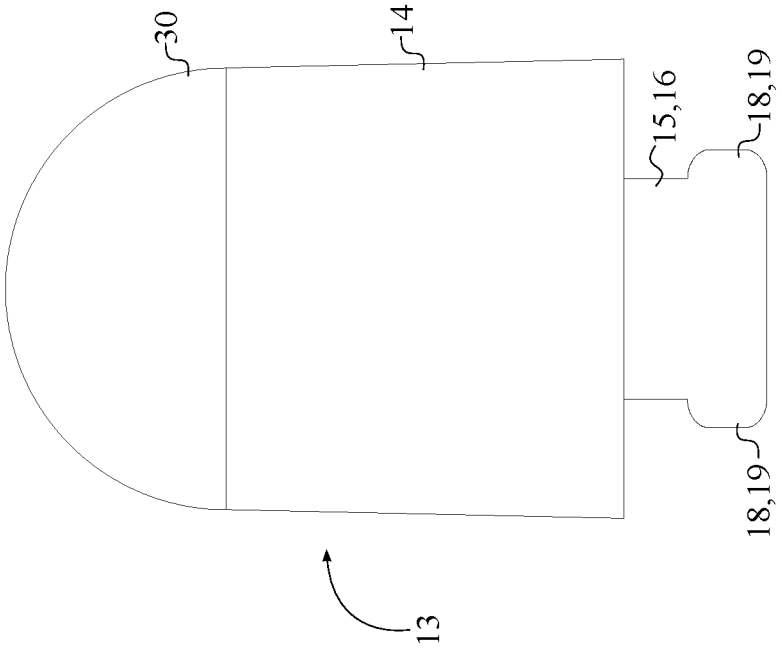


FIG. 5

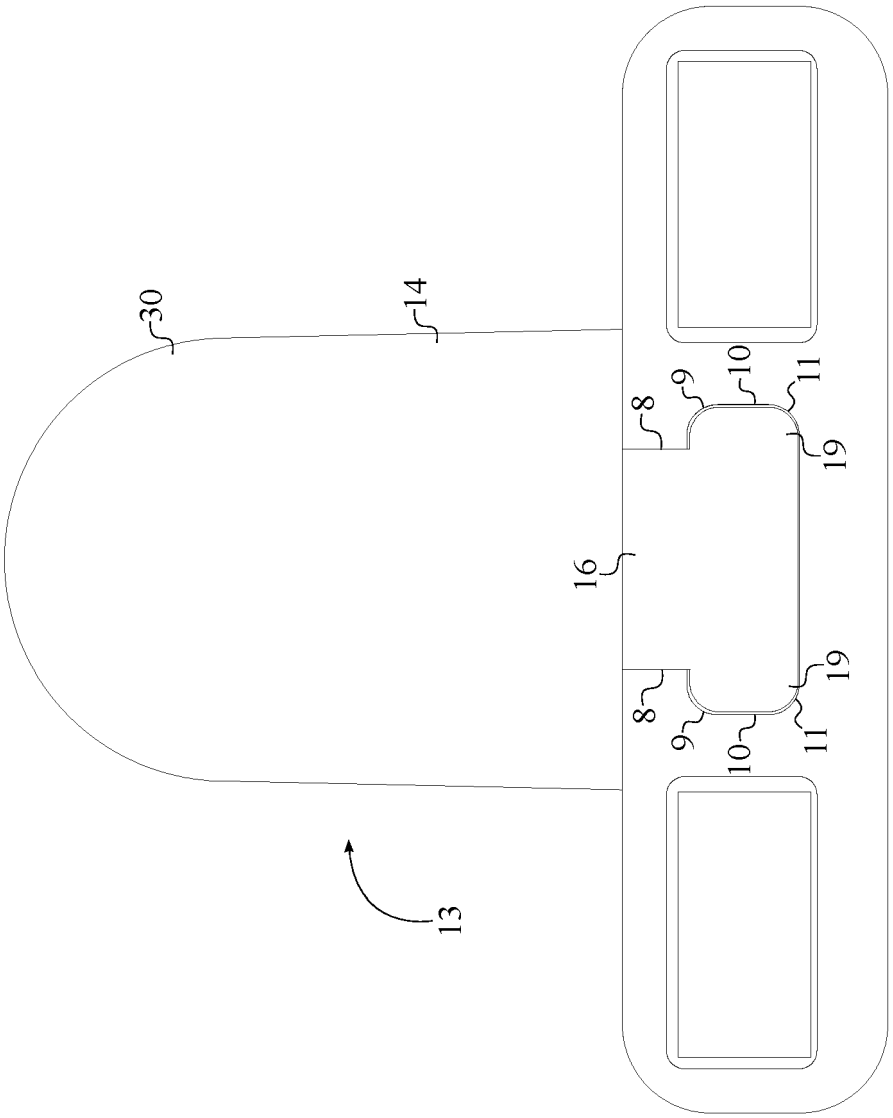
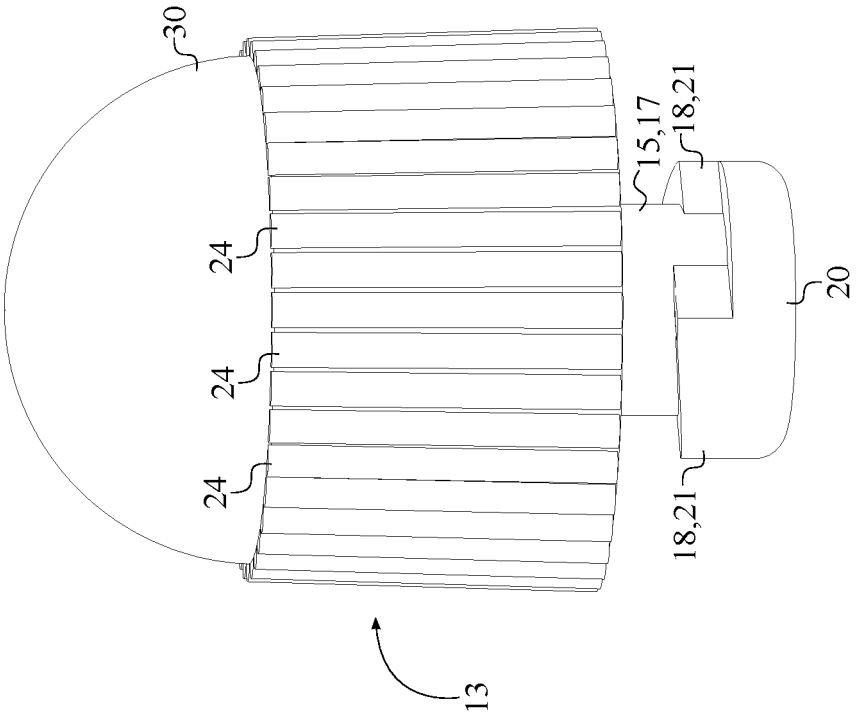


FIG. 7


30
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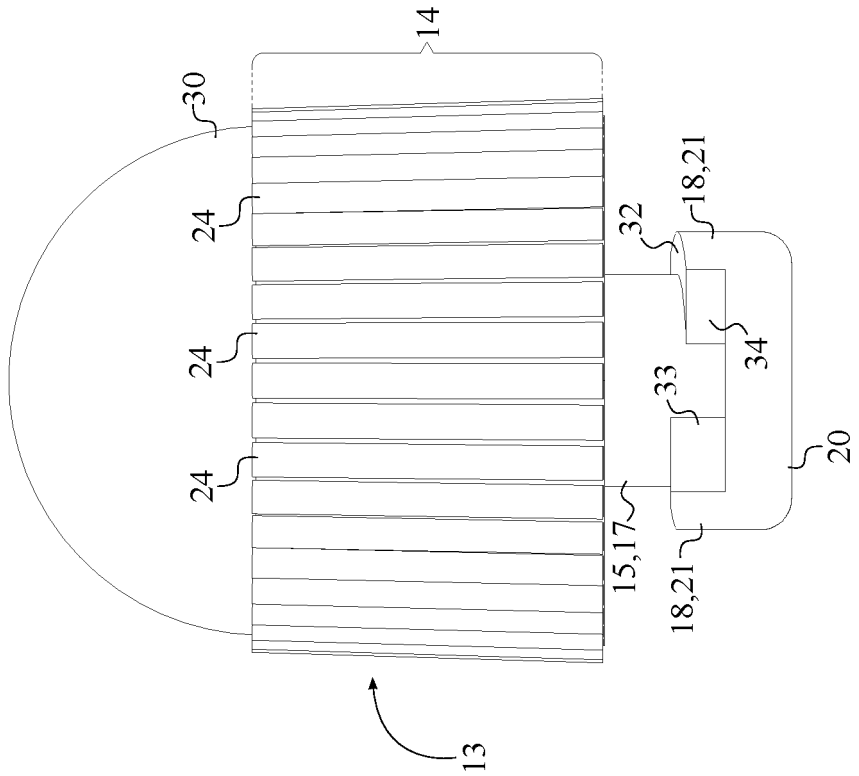
24
15,17
18,21
18,21
20
13

FIG. 9


14
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15,17
18,21
13

FIG. 8

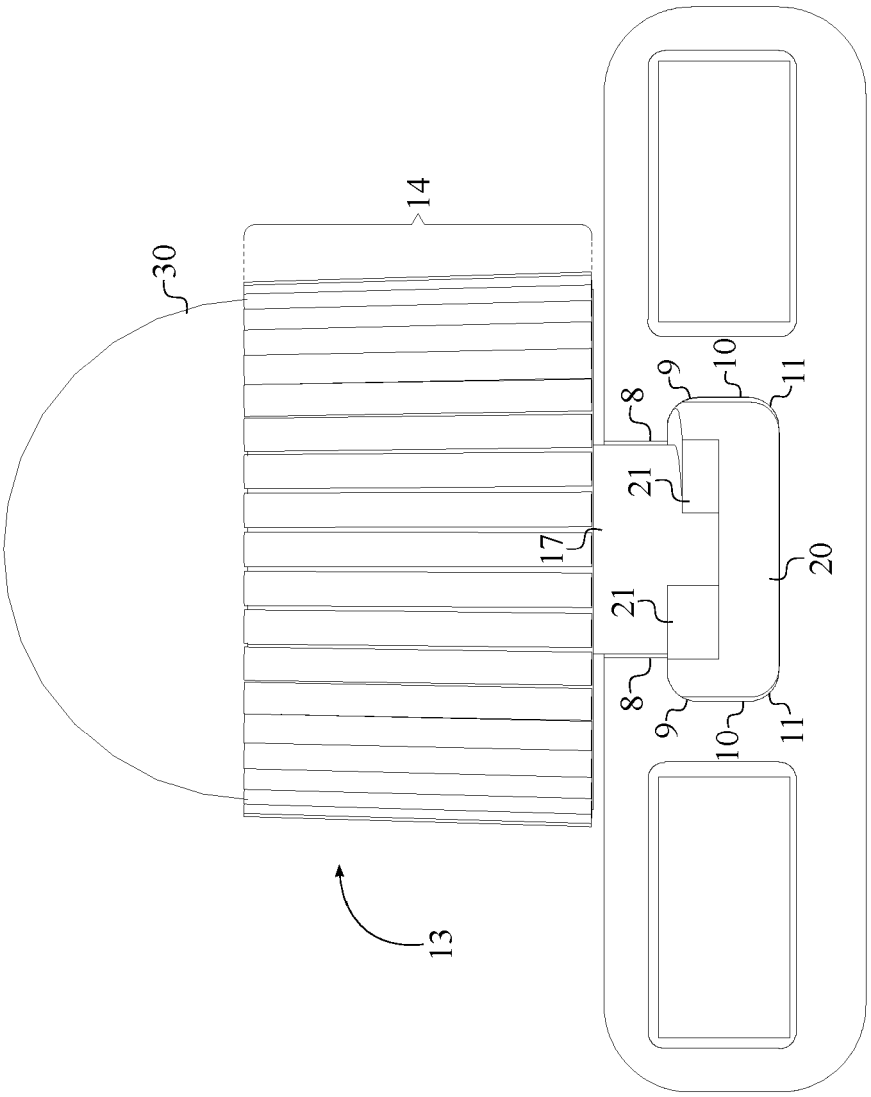

FIG. 10

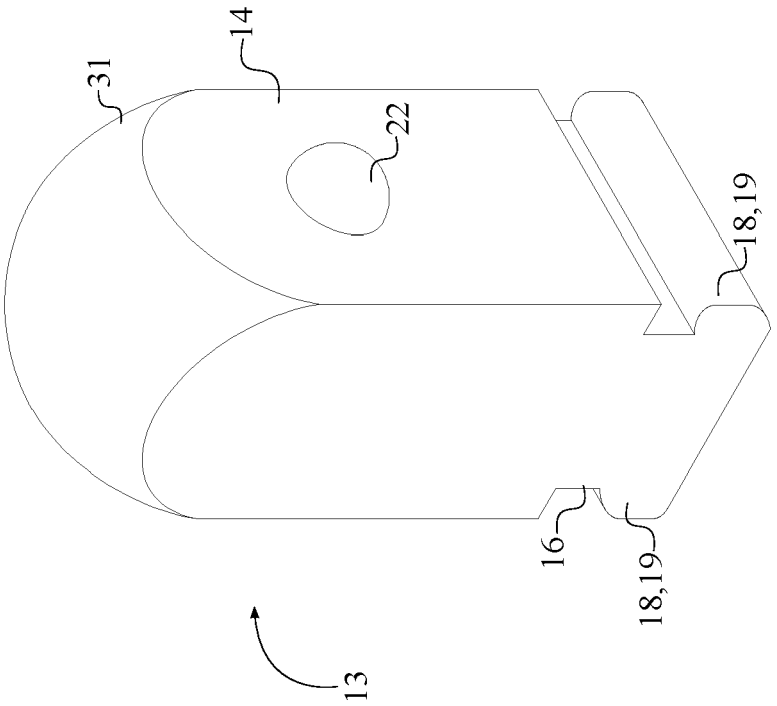

FIG. 11

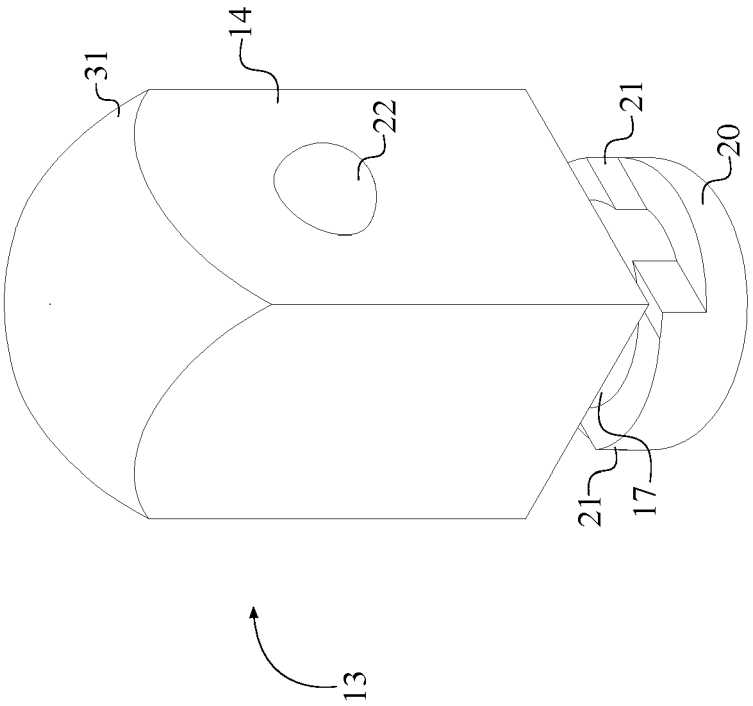

FIG. 12

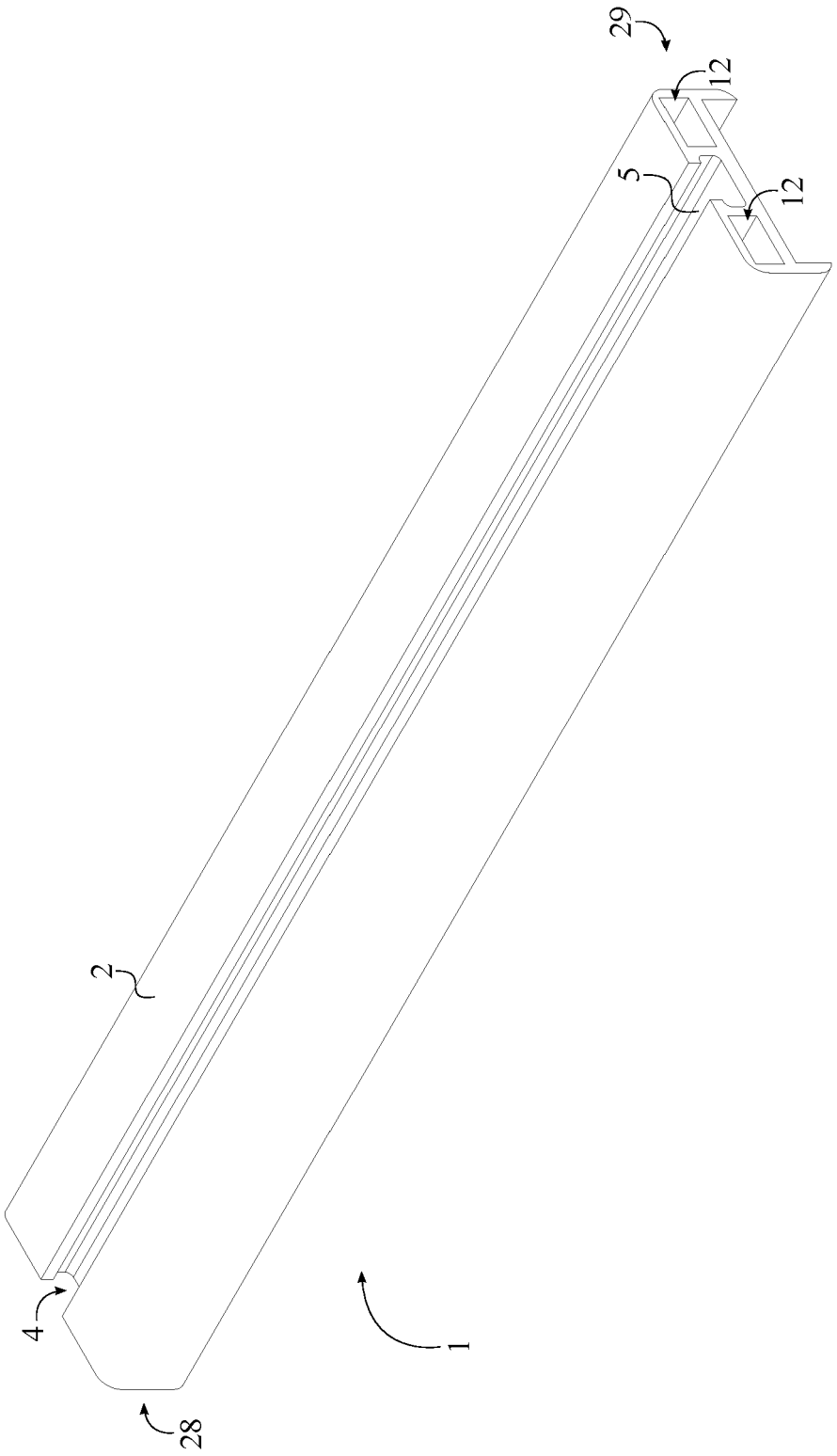

FIG. 13

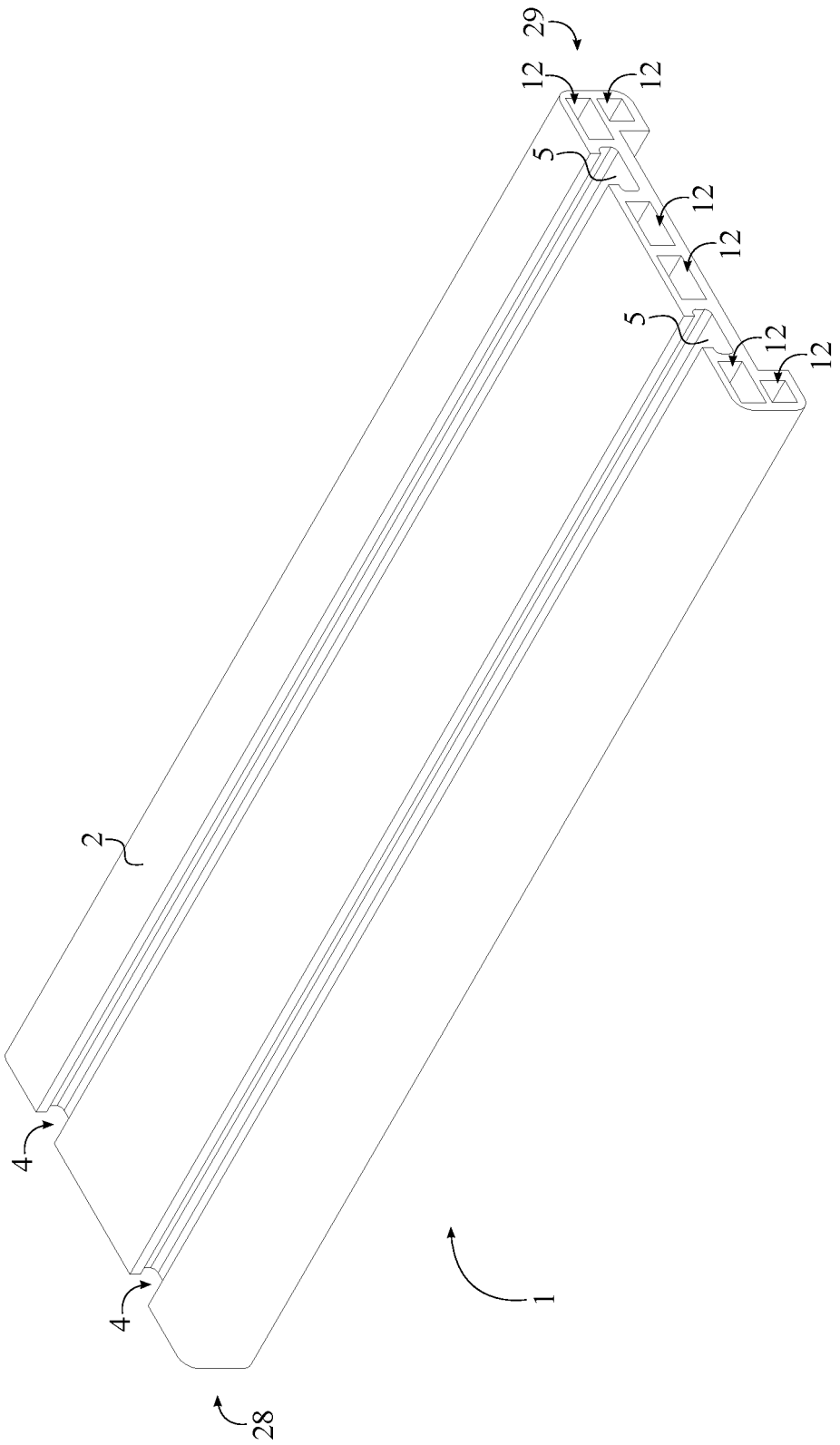

FIG. 14

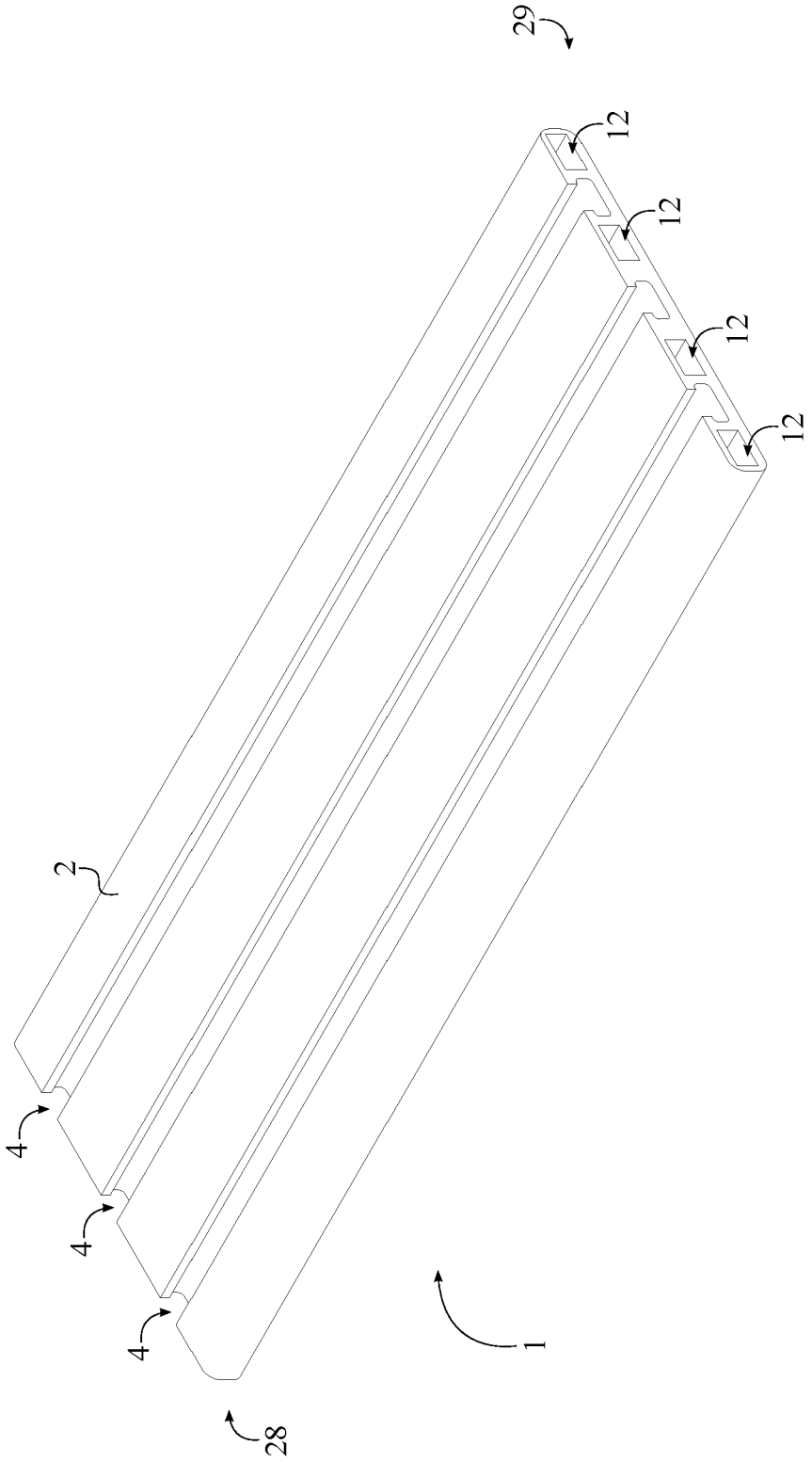

FIG. 15