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(54) **Garden tool rack**

Gartenwerkzeugregal

Porte-outils de jardinage

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Description

1. Field of the Invention:

[0001] The present invention relates to a garden tool rack according to the preamble of claim 1, as described in CA 2451544.

2. Description of the Related Art:

[0002] For cultivation of soil and taking care of a garden, a variety of garden tools may be used. Regular garden tools include dibble, rack, digging fork, mattock draw hoe, shears, hedge trimmers, garden trowel, cultivator, etc. These garden tools have different shapes and sizes for different purposes. When gardening, garden tools may be scattered over the ground, and the scattered garden tools may injure people accidentally. Further, it is inconvenient to carry a set of garden tools to the jobsite. After gardening, the user must spend a lot of time to collect the scattered garden tools.

SUMMARY OF THE INVENTION

[0003] The present invention has been accomplished under the circumstances in view. It is the main object of the present invention to provide a garden tool rack, which is convenient for use to hold a set of garden tools on soil when working. It is another object of the present invention to provide a garden tool rack, which prevents interference of loaded garden tools with one another, for enabling the user to conveniently use garden tools.

[0004] To achieve these and other objects of the present invention, the garden tool rack comprises a rack body, the rack body comprising a plurality of plugholes vertically extended through top and bottom walls thereof and a plurality of bottom barrels respectively downwardly extended from the bottom wall around each the plughole; a plurality of tool holders respectively axially fastened to the plugholes of the rack body for holding garden tools; a plurality of end caps respectively fastened to the bottom barrels of the rack body; and a plurality of anchoring devices respectively coupled to the end caps and adapted for fastening the rack body to earth. The garden tool rack may further comprise a plurality of axial positioning structures adapted to stop the tool holders from axial movement relative to the plugholes of the rack body after insertion of the tool holders into the plugholes of the rack body, and a plurality of rotary positioning structures adapted to stop the tool holders from rotary motion relative to the plugholes of the rack body after insertion of the tool holders into the plugholes of the rack body.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005]

FIG. is an exploded view of a garden tool rack according to the present invention.

FIG. 2 is an oblique top elevation of the garden tool rack according to the present invention.

FIG. 3 is an exploded bottom view of the garden tool rack according to the present invention.

FIG. 4 is similar to FIG. 3 but showing the anchoring devices respectively received in the anchoring device receiving structures.

FIG. 5A illustrates the pegs of the anchoring device stopped at the locating protrusions of the respective end cap according to the present invention.

FIG. 5B is similar to FIG. 5A but showing the pegs of the anchoring device respectively engaged into the locating notches of the respective end cap.

FIG. 6 is a sectional view in an enlarged scale of a part of the present invention, showing the anchoring device fastened to the respective end cap.

FIG. 7A is a sectional view taken along line 7A-7A of FIG. 4.

FIG. 7B is similar to FIG. 7A but showing one horizontal spring leave engaged into the longitudinal groove in the inside protruding block.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0006] Referring to FIGS. 1~3, a garden tool rack in accordance with the present invention is shown comprised of a rack body **10,** a plurality of hollow cylindrical tool holders **20,** a plurality of plug caps **30**, and a plurality of anchoring devices **40**.

[0007] Referring to FIGS. 1 and 2 again, the rack body **10** is a hollow shell molded from plastics, comprising a vertical barrel **12** vertically disposed at the center for holding a tool handle **92,** a plurality of plug holes **11** spaced around the vertical barrel **12,** and a plurality of bottom barrels **111** downwardly extended from the bottom wall corresponding to the plug holes **11**.

[0008] Referring to FIGS. 1~3 again, the tool holders **20** are respectively fastened to the plug holes **11** and adapted to hold a respective garden tool **90**, each comprising a top holder body **21** for receiving the tool shaft **91** of a garden tool **90,** a bottom mounting tube **25** for insertion into one plughole **11** of the rack body **10,** and a skirt-like shoulder **29** provided between the top holder body **21** and the bottom mounting tube **25** and adapted to support the top holder body **21** above the top wall of the rack body **10**. The bottom mounting tube **25** is insertable through one plughole **11** into the corresponding bottom barrel **111**.

[0009] Referring to FIGS. 6, 7A and 7B, and FIG. 1 again, each bottom barrel **111** of the rack body **10** comprises an inside protruding block **14** protruded from the inside wall, and a longitudinal groove **15** formed in the inside protruding block **14**. The bottom mounting tube **25** of each tool holder **20** comprises a vertical retaining spring leaf **26,** and two horizontal retaining spring leaves **27** symmetrically disposed at two sides of the vertical

retaining spring leaf **26**. The vertical retaining spring leaf **26** has the free end (the bottom end) terminating in a protruded retaining portion **261**. Each horizontal retaining spring leaf **27** has the free end terminating in a protruded retaining portion **271**. The spring leaves **26**, **27** are disposed at an offset position such that a space is defined for receiving the inside protruding block **14** upon insertion of the bottom mounting tube **25** into one bottom barrel **111** of the rack body **10**. When inserted the bottom mounting tube **25** into one bottom barrel **111** of the rack body **10,** the protruded retaining portion **261** is forced into engagement with the bottom side of the inside protruding block **14** to stop the respective tool holder **20** from axial displacement. At this time, bias the tool holder **20** to force the protruded retaining portion **27** of one horizontal retaining spring leaf **27** into engagement with the longitudinal groove **15**. At this time, a part of the bottom mounting tube **25** around one retaining spring leaf **27** is stopped against the inside protruding block **14**, and therefore the tool holder **20** is prohibited from rotary motion in the same direction. Therefore, after insertion of the tool holders **20** into the plugholes **11** of the rack body **10,** the tool holders **20** can be respectively biased through a limited angle, preventing interference of the loaded garden tools **90** with one another.

[0010] Referring to FIGS. 5A and 5B, and FIGS. 1 and 6 again, the end caps **30** are substantially T-shaped hollow caps each comprising a cylindrical cap body **31** fitting the inner diameter of the bottom mounting tube **25,** a cap head **32,** a shoulder **37** connected between the cap body **31** and the cap head **32** and fitting the inner diameter of the bottom barrels **111**, a center through hole **33** axially extended through the cap head **32** and the shoulder **37** and the cylindrical cap body **31,** two longitudinal grooves **34** symmetrically disposed in the center through hole **33** at two sides and axially extended to the two ends of the respective end cap **30,** and two locating notches **35** and two locating protrusions **36** alternatively disposed at the distal end of the cylindrical cap body **31** and equiangularly spaced from one another. Each end cap 30 has the respective shoulder **37** press-fitted into one bottom barrel **111**, and the respective cylindrical cap body **31** press-fitted into the bottom mounting tube **25** of the corresponding tool holder **20,** keeping the cap head **32** stopped at the bottom end of the corresponding bottom barrel **111** to hold the protruded retaining portion **261** of the vertical retaining spring leaf **26** of the respective tool holder **25** firmly in engagement with the bottom side of the respective inside protruding block **14,** and therefore the respective tool holder **20** is locked to the rack body **10**.

[0011] Referring to FIGS. 1, 3, 5A, 5B and 6 again, each anchoring device **40** comprises a cylindrical base **41,** an anchoring tip **42** axially extended from one end of the cylindrical base **41,** and two pegs **43** radially protruded from the periphery of the cylindrical base **41** at two sides. When inserting the cylindrical base **41** into the center through hole **33** of one end cap **30,** the pegs **43** are respectively inserted into the longitudinal grooves **34**. After the cylindrical base **41** has been completely inserted into the end cap **30**, the. pegs **43** are respectively stopped against the locating protrusions **36** at one side outside the longitudinal grooves **34**. At this time, the anchoring device **40** is biased in one direction through an angle to force the pegs **43** into the locating notches **35,** and therefore the anchoring device **40** is locked to the respective end cap **30**. On the contrary, when biasing the anchoring device **40** in the reversed direction, the pegs **43** are moved out of the locating notches **35** to the longitudinal grooves **34,** and therefore the anchoring device **40** is unlocked and can be removed from the respective end cap **30**.

[0012] Referring to FIGS. 3 and 4 again, there is provided a plurality of receiving structures adapted to receive the anchoring devices **40** in the bottom side of the rack body **10** after removal of the anchoring devices **40** from the end caps **30**. Each receiving structure comprises a pair of lugs **16** downwardly extended from the bottom side of the rack body **10,** and a rib **17** radially extended from the periphery of the vertical barrel **12** at the bottom side of the rack body. The lugs **16** each have a bottom notch **161**.The rib **17** has a bottom notch **171**. After removable of one anchoring device **40** from the respective end cap **30**, the anchoring device **40** is fastened to one receiving structure in such a manner that the cylindrical base **41** is set in between the lugs **16** with pegs **43** respectively engaged into the bottom notches **161** of the lugs **16** and the anchoring tip **42** engaged into in the bottom notch **171** of the rib **17**.

[0013] As indicated above, garden tools **90** can be respectively plugged into the tool holders **20** at the rack body **10**. Plugging garden tools **90** into the tool holders **20** or removing garden tools **90** from the tool holders **20** does not cause axial displacement of the tool holders **20** relative to the rack body **10**. After insertion of garden tools **90** into one tool holders **20**, the loaded garden tools **90** can be respectively biased with the respective tool holders **90** relative to the rack body **10** within a limited angle to prevent interference of loaded garden tools **90** with one another. When in use, the anchoring devices **40** can be respectively plugged into the end caps **30** for fastening the rack body **10** to earth, keeping the rack body **10** firmly supported on earth. When not in use, the garden tool rack is removed from earth. Because the end caps **30** are respectively locked to the bottom barrels **111** of the rack body **10**, pulling the garden tool rack away from earth does not cause the end caps **30** to fall with the anchoring devices **40** from the rack body **10**. After removal of the garden tool rack from earth, the anchoring devices **40** are unlocked and detached from the end caps **30** and then respectively received in the respective receiving structures at the bottom side of the rack body **10**.

[0014] A prototype of garden tool rack has been constructed with the features of FIGS. 1~7. The garden tool rack functions smoothly to provide all of the features discussed earlier.

Claims

1. A garden tool rack comprising:

   a rack body (10), said rack body (10) comprising a plurality of plugholes (11) vertically extended through top and bottom walls thereof and a plurality of bottom barrels (111) respectively downwardly extended from the bottom wall around each said plughole (11);
   a plurality of tool holders (20) respectively axially fastened to the plugholes (11) of said rack body (10) for holding garden tools (90); **characterized by** a plurality of end caps (30) respectively fastened to the bottom barrels (111) of said rack body (10); and
   a plurality of anchoring devices (40) respectively coupled to said end caps (30) and adapted for fastening said rack body (10) to earth.

2. The garden tool rack as claimed in claim 1, wherein each said end cap (30) comprises a cylindrical cap body (31) fitted into one said tool holder (20), a cap head (32) stopped outside one said bottom barrel (111) of said rack body (10), and a shoulder (37) connected between said cap body (31) and fitted into one said bottom barrel (111) of said rack body (10).

3. The garden tool rack as claimed in claim 1, wherein said anchoring devices (40) each comprise a cylindrical base (41) connectable to one said end cap (30), and an anchoring tip (42) axially extended from one end of said cylindrical base (41) for fastening to earth.

4. The garden tool rack as claimed in claim 3, wherein each said end cap (30) comprises an axially extended center through hole (33) adapted to receive the cylindrical base (21) of one said anchoring device (40), and at least one longitudinal groove (34) formed in said axially extended center through hole (33) and axially extended through two distal ends of said axially extended center through hole (33), each said anchoring device (40) comprises at least one peg (43) perpendicularly extended from the cylindrical base (41) thereof for insertion through the at least one longitudinal groove (34) and stoppage at one end of the respective end cap (30) after insertion of said at least one peg (43) through said at least one longitudinal groove (34).

5. The garden tool rack as claimed in claim 4, wherein each said end cap (30) further comprises at least one locating notch (35) at one end of the cylindrical cap body (31) thereof for receiving the at least one peg (43) of one said anchoring device (40).

6. The garden tool rack as claimed in claim 5, wherein each said end cap (30) comprises at least one locating protrusion (36) respectively suspended between one of said at least one locating notch (35) and one end of one of said longitudinal groove (34).

7. The garden tool rack as claimed in claim 4, further comprising a plurality of anchoring device receiving structures provided at the bottom wall of said rack body and adapted to receive said anchoring devices (40) after removal of said anchoring devices (40) from said end caps (30).

8. The garden tool rack as claimed in claim 7, wherein each said anchoring device receiving structure comprises a pair of lugs (16) downwardly extended from the bottom wall of said rack body (10) for receiving the cylindrical base (41) of one said anchoring device (40) between said lugs (16), said lugs (16) each having a locating notch (161) adapted to accommodate the at least one peg (43) of one said anchoring device (40).

9. The garden tool rack as claimed in claim 8, wherein each said anchoring device receiving structure further comprises a rib (17) radially provided at the bottom wall of said rack body (10), said rib (17) comprising a locating notch (171) adapted to hold the anchoring tip (42) of one said anchoring device (40).

10. The garden tool rack as claimed in claim 1, further comprising a plurality of axial positioning structures adapted to stop said tool holders (20) from axial movement relative to said plugholes (11) of said rack body (10) after insertion of said tool holders (20) into said plugholes (11) of said rack body (10).

11. The garden tool rack as claimed in claim 10, wherein each said axial positioning structure comprises an inside protruding block (14) protruded from an inside wall of one said bottom barrel (111) of said rack body (10), and a vertical retaining spring leaf (26) suspended from one said tool holder (20) and adapted to hook on a bottom side of the inside protruding block (14) at one said bottom barrel (111) of said rack body (10).

12. The garden tool rack as claimed in claim 11, further comprising a plurality of rotary positioning structures adapted to stop said tool holders (20) from rotary motion relative to said plugholes (11) of said rack body (10) after insertion of said tool holders (20) into said plugholes (11) of said rack body (10).

13. The garden tool rack as claimed in claim 12, wherein each said rotary positioning structure comprises one longitudinal groove (15) formed in the inside protruding block (14) inside one said bottom barrel (111) of said rack body (10), and at least one horizontal spring

leaf (27) transversely suspended from one said tool holder (20) and adapted to engage the longitudinal groove (15) in the inside protruding block (14) inside one said bottom barrel (111) of said rack body (10).

14. The garden tool rack as claimed in claim 1, wherein said rack body (10) further comprises a vertical barrel (12) vertically disposed at the center thereof for holding a tool handle (92).

15. The garden tool rack as claimed in claim 1, wherein each said tool holder (20) comprises a top holder body (21) for receiving a garden tool (90) and a bottom mounting tube (25) axially extended from one end of said top holder body (21) for insertion into one plughole (11) of said rack body (10).

16. The garden tool rack as claimed in claim 15, wherein each said tool holder (20) further comprises a skirt-like shoulder (29) provided between said top holder body (21) and said bottom mounting tube (25) and adapted to support said top holder body (21) above the top wall of said rack body (10).

Patentansprüche

1. Gartenwerkzeugregal, das aufweist:

einen Regalkörper (10), wobei der Regalkörper (10) eine Vielzahl von Stecklöchern (11), die sich vertikal durch dessen obere und untere Wand erstrecken, und eine Vielzahl von unteren Zylindern (111) aufweist, die sich jeweils nach unten von der unteren Wand um jedes Steckloch (11) erstrecken;
eine Vielzahl von Werkzeughaltern (20), die jeweils axial an den Stecklöchern (11) des Regalkörpers (10) für das Halten der Gartenwerkzeuge (90) befestigt sind;
gekennzeichnet durch
eine Vielzahl von Abschlusskappen (30), die jeweils an den unteren Zylindern (111) des Regalkörpers (10) befestigt sind; und
eine Vielzahl von Verankerungsvorrichtungen (40), die jeweils mit den Abschlusskappen (30) gekuppelt und für eine Befestigung des Regalkörpers (10) an der Erde eingerichtet sind.

2. Gartenwerkzeugregal nach Anspruch 1, bei dem jede Abschlusskappe (30) aufweist: einen zylindrischen Kappenkörper (31), der in einen Werkzeughalter (20) eingepasst ist; einen Kappenkopf (32), der außerhalb eines unteren Zylinders (111) des Regalkörpers (10) stoppt; und einen Ansatz (37), der zwischen dem Kappenkörper (31) geschaltet ist und in den unteren Zylinder (111) des Regalkörpers (10) eingepasst ist.

3. Gartenwerkzeugregal nach Anspruch 1, bei dem die Verankerungsvorrichtungen (40) jeweils eine zylindrische Basis (41), die mit einer Abschlusskappe (30) verbunden werden kann, und eine Verankerungsspitze (42) aufweist, die sich axial von einem Ende der zylindrischen Basis (41) für eine Befestigung an der Erde erstreckt.

4. Gartenwerkzeugregal nach Anspruch 3, bei dem eine jede Abschlusskappe (30) aufweist: ein sich axial erstreckendes mittleres Durchgangsloch (33), das so ausgeführt ist, dass es die zylindrische Basis (41) der einen Verankerungsvorrichtung (40) aufnimmt; und mindestens eine Längsnut (34), die in dem sich axial erstrekkenden mittleren Durchgangsloch (33) gebildet wird und sich axial durch zwei distale Enden des sich axial erstrekkenden mittleren Durchgangsloches (33) erstreckt, wobei jede Verankerungsvorrichtung (40) mindestens einen Stift (43), der sich senkrecht von der zylindrischen Basis (41) davon für ein Einsetzen durch die mindestens eine Längsnut (34) ersteckt, und eine Arretierung an einem Ende der jeweiligen Abschlusskappe (30) nach dem Einsetzen des mindestens einen Stiftes (43) durch die mindestens eine Längsnut (34) aufweist.

5. Gartenwerkzeugregal nach Anspruch 4, bei dem jede Abschlusskappe (30) außerdem mindestens eine Führungskerbe (35) an einem Ende des zylindrischen Kappenkörpers (31) davon für das Aufnehmen des mindestens einen Stiftes (43) der einen Verankerungsvorrichtung (40) aufweist.

6. Gartenwerkzeugregal nach Anspruch 5, bei dem eine jede Abschlusskappe (30) mindestens einen Führungsvorsprung (36) aufweist, der jeweils zwischen einer der mindestens einen Führungskerbe (35) und einem Ende einer Längsnut (34) aufgehängt ist.

7. Gartenwerkzeugregal nach Anspruch 4, das außerdem eine Vielzahl von Strukturen für das Aufnehmen der Verankerungsvorrichtungen aufweist, die an der unteren Wand des Regalkörpers vorhanden und so ausgeführt sind, dass sie die Verankerungsvorrichtungen (40) nach dem Entfernen der Verankerungsvorrichtungen (40) aus den Abschlusskappen (30) aufnehmen.

8. Gartenwerkzeugregal nach Anspruch 7, bei dem eine jede Struktur für das Aufnehmen der Verankerungsvorrichtung ein Paar Ansätze (16) aufweist die sich nach unten von der unteren Wand des Regalkörpers (10) für das Aufnehmen der zylindrischen Basis (41) der einen Verankerungsvorrichtung (40) zwischen den Ansätzen (16) erstrecken, wobei die Ansätze (16) jeweils eine Führungskerbe (161) aufweisen, die so ausgeführt ist, dass sie den mindestens einen Stift (43) der einen Verankerungsvor-

richtung (40) aufnimmt.

9. Gartenwerkzeugregal nach Anspruch 8, bei dem die Struktur für das Aufnehmen der Verankerungsvorrichtung außerdem eine Rippe (17) aufweist, die radial an der unteren Wand des Regalkörpers (10) vorhanden ist, wobei die Rippe (17) eine Führungskerbe (171) aufweist, die so ausgeführt ist, dass sie die Verankerungsspitze (42) der einen Verankerungsvorrichtung (40) festhält.

10. Gartenwerkzeugregal nach Anspruch 1, die außerdem eine Vielzahl von axialen Positionierstrukturen aufweist, die so ausgeführt sind, dass sie die Werkzeughalter (20) vor einer axialen Bewegung relativ zu den Stecklöchern (11) des Regalkörpers (10) nach dem Einsetzen der Werkzeughalter (20) in die Stecklöcher (11) des Regalkörpers (10) stoppen.

11. Gartenwerkzeugregal nach Anspruch 10, bei dem jede axiale Positionierstruktur einen inneren vorstehenden Block (14), der von einer Innenwand des einen unteren Zylinders (111) des Regalkörpers (10) vorsteht, und eine vertikale Halteblattfeder (26) aufweist, die von dem einen Werkzeughalter (20) herabhängt und so ausgeführt ist, dass sie an einer unteren Seite des inneren vorstehenden Blockes (14) in einen unteren Zylinder (111) des Regalkörpers (10) einhakt.

12. Gartenwerkzeugregal nach Anspruch 11, das außerdem eine Vielzahl von rotierenden Positionierstrukturen aufweist, die so ausgeführt sind, dass die Werkzeughalter (20) vor einer Drehbewegung relativ zu den Stecklöchern (11) des Regalkörpers (10) nach dem Einsetzen der Werkzeughalter (20) in die Stecklöcher (11) des Regalkörpers (10) stoppen.

13. Gartenwerkzeugregal nach Anspruch 12, bei dem jede rotierende Positionierstruktur eine Längsnut (15), die im inneren vorstehenden Block (14) innerhalb des einen unteren Zylinders (111) des Regalkörpers (10) gebildet wird, und mindestens eine horizontale Blattfeder (27) aufweist, die quer von dem einen Werkzeughalter (20) herabhängt und so ausgeführt ist, dass sie in der Längsnut (15) im inneren vorstehenden Block (14) innerhalb des einen unteren Zylinders (111) des Regalkörpers (10) in Eingriff kommt.

14. Gartenwerkzeugregal nach Anspruch 1, bei dem der Regalkörper (10) außerdem einen vertikalen Zylinder (12) aufweist, die vertikal in dessen Mitte für das Halten eines Werkzeuggriffes (92) angeordnet ist.

15. Gartenwerkzeugregal nach Anspruch 1, bei dem jeder Werkzeughalter (20) einen oberen Halterkörper (21) für das Aufnehmen eines Gartenwerkzeuges (90) und ein unteres Montagerohr (25) aufweist, das sich axial von einem Ende des oberen Halterkörpers (21) für ein Einsetzen in ein Steckloch (11) des Regalkörpers (10) erstreckt.

16. Gartenwerkzeugregal nach Anspruch 15, bei dem jeder Werkzeughalter (20) außerdem einen randartigen Ansatz (29) aufweist, der zwischen dem oberen Halterkörper (21) und dem unteren Montagerohr (25) vorhanden und so ausgeführt ist, dass er den oberen Halterkörper (21) über der oberen Wand des Regalkörpers (10) trägt.

Revendications

1. Porte-outils de jardin, comprenant :

un corps de porte-outils (10), ledit corps de porte-outils (10) comprenant plusieurs trous d'insertion (11) s'étendant verticalement à travers des parois supérieure et inférieure correspondantes, et plusieurs cylindres inférieurs (111) s'étendant respectivement vers le bas à partir de la paroi inférieure autour de chaque dit trous d'insertion (111) ;
plusieurs éléments de retenue d'outils (20) fixés respectivement de manière axiale sur les trous d'insertion (11) dudit corps de porte-outils (10), pour retenir les outils de jardin (90) ; **caractérisé par**
plusieurs capuchons d'extrémité (30) fixés respectivement sur les cylindres inférieurs (111) dudit corps de porte-outils (10) ; et
plusieurs dispositifs d'ancrage (40) accouplés respectivement aux dits capuchons d'extrémité (30) et destinés à fixer ledit corps de porte-outils (40) sur le sol.

2. Porte-outils de jardin selon la revendication 1, dans lequel chaque dit capuchon d'extrémité (30) comprend un corps de capuchon cylindrique (31) ajusté dans un dit élément de retenue d'outils (20), une tête de capuchon (32) bloquée à l'extérieur d'un dit cylindre inférieur (111) dudit corps de porte-outils (10), et un épaulement (37) connecté entre ledit corps du capuchon (31) et ajusté dans un dit cylindre inférieur (111) dudit corps de porte-outils.

3. Porte-outils de jardin selon la revendication 1, dans lequel lesdits dispositifs d'ancrage (40) comprennent chacun une base cylindrique (41) pouvant être connectée à un dit capuchon d'extrémité (30), et une pointe d'ancrage (42) s'étendant axialement à partir d'une extrémité de ladite base cylindrique (41) en vue de la fixation sur le sol.

4. Porte-outils de jardin selon la revendication 3, dans

lequel chaque dit capuchon d'extrémité (30) comprend un trou de passage central à extension axiale (33) destiné à recevoir la base cylindrique (41) d'un dit dispositif d'ancrage (40), et au moins une rainure longitudinale (34) formée dans ledit trou de passage central à extension axiale (33) et s'étendant axialement à travers deux extrémités distales dudit trou de passage central à extension axiale (33), chaque dit dispositif d'ancrage (40) comprenant au moins une cheville (43) s'étendant perpendiculairement à partir de la base cylindrique (41) correspondante en vue d'une insertion à travers au moins une rainure longitudinale (34), avec un arrêt au niveau d'une extrémité du capuchon d'extrémité respectif (30) après l'insertion de ladite au moins une cheville (43) à travers ladite au moins une rainure longitudinale (34).

5. Porte-outils de jardin selon la revendication 4, dans lequel chaque dit capuchon d'extrémité (30) comprend en outre au moins une encoche de positionnement (35) au niveau d'une extrémité du corps de capuchon cylindrique (31) pour recevoir la au moins une cheville (43) d'un dit dispositif d'ancrage (40).

6. Porte-outils de jardin selon la revendication 5, dans lequel chaque dit capuchon d'extrémité (30) comprend au moins une saillie de positionnement, s'étendant respectivement entre une desdites au moins une encoche de positionnement (35) et une extrémité d'une desdites rainures longitudinales (34).

7. Porte-outils de jardin selon la revendication 4, comprenant en outre plusieurs structures de réception des dispositifs d'ancrage agencées au niveau de la paroi inférieure dudit corps de porte-outils et adaptées à recevoir lesdits dispositifs d'ancrage (40) après le retrait desdits dispositifs d'ancrage (40) desdits capuchons d'extrémité (30).

8. Porte-outils de jardin selon la revendication 7, dans lequel chaque dite structure de réception des dispositifs d'ancrage comprend une paire de pattes (16), s'étendant vers le bas à partir de la paroi inférieure dudit corps de porte-outils (10), pour recevoir la base cylindrique (40) de l'un desdits dispositifs d'ancrage (40) entre lesdites pattes (16), lesdites pattes (16) comportant chacune une encoche de positionnement (161) adaptée à recevoir la au moins une cheville (43) d'un dit dispositif d'ancrage (161).

9. Porte-outils de jardin selon la revendication 8, dans lequel chaque dite structure de réception des dispositifs d'ancrage comprend en outre une nervure (17) fournie radialement au niveau de la paroi inférieure dudit corps de porte-outils (10), ladite nervure (17) comprenant une encoche de positionnement (171) adaptée à retenir la pointe d'ancrage (42) d'un dit dispositif d'ancrage (40).

10. Porte-outils de jardin selon la revendication 1, comprenant en outre plusieurs structures de positionnement axiales adaptées à empêcher un déplacement axial desdits éléments de retenue d'outils (20) par rapport aux dits trous d'insertion (11) dudit corps de porte-outils (10) après l'insertion desdits éléments de retenue d'outils (20) dans lesdits trous d'insertion (11) dudit corps de porte-outils (10).

11. Porte-outils de jardin selon la revendication 10, dans lequel chaque dite structure de positionnement axiale comprend un bloc débordant vers l'intérieur (14) débordant de la paroi interne d'un dit cylindre inférieur (111) dudit corps de porte-outils (10), et un ressort à lame de retenue verticale (26) suspendu à un dit élément de retenue d'outils (20) et adapté à être accroché sur un côté inférieur du bloc débordant vers l'intérieur (14) au niveau d'un dit cylindre inférieur (111) dudit corps de porte-outils (10).

12. Porte-outils de jardin selon la revendication 11, comprenant en outre plusieurs structures de positionnement rotatifs adaptées à empêcher un déplacement par rotation desdits éléments de retenue d'outils (20) par rapport aux dits trous d'insertion (11) dudit corps de porte-outils (10) après l'insertion desdits éléments de retenue d'outils (20) dans lesdits trous d'insertion (10) dudit corps de porte-outils (10).

13. Porte-outils de jardin selon la revendication 12, dans lequel chaque dite structure de positionnement rotatif comprend une rainure longitudinale (15) formée dans le bloc débordant vers l'intérieur (19), à l'intérieur d'un dit cylindre inférieur (111) dudit corps de porte-outils (10), et au moins un ressort à lame horizontal (27) suspendu transversalement à un dit élément de retenue d'outils (20) et adapté à s'engager dans la rainure longitudinale (15) dans le bloc débordant vers l'intérieur à l'intérieur d'un dit cylindre inférieur (111) dudit corps de porte-outils (10).

14. Porte-outils de jardin selon la revendication 1, dans lequel ledit corps de porte-outils (10) comprend en outre un cylindre vertical (12) agencé verticalement au niveau du centre correspondant, pour retenir un manche d'outil (92).

15. Porte-outils de jardin selon la revendication 1, dans lequel chaque dit élément de retenue d'outils (20) comprend un corps de retenue supérieur (21) pour recevoir un outil de jardin (90) et un tube de montage inférieur (25) s'étendant axialement à partir d'une extrémité dudit corps de retenue supérieur (21), en vue de l'insertion dans un trou d'insertion (11) dudit corps de porte-outils.

16. Porte-outils de jardin selon la revendication 15, dans lequel chaque dit élément de retenue d'outils (20) comprend en outre un épaulement en forme de bordure (29) fourni entre ledit corps de retenue supérieur (21) et ledit tube de montage inférieur (25), et adapté à supporter ledit corps de retenue supérieur (21) au-dessus de la paroi supérieure dudit corps de porte-outils (10).

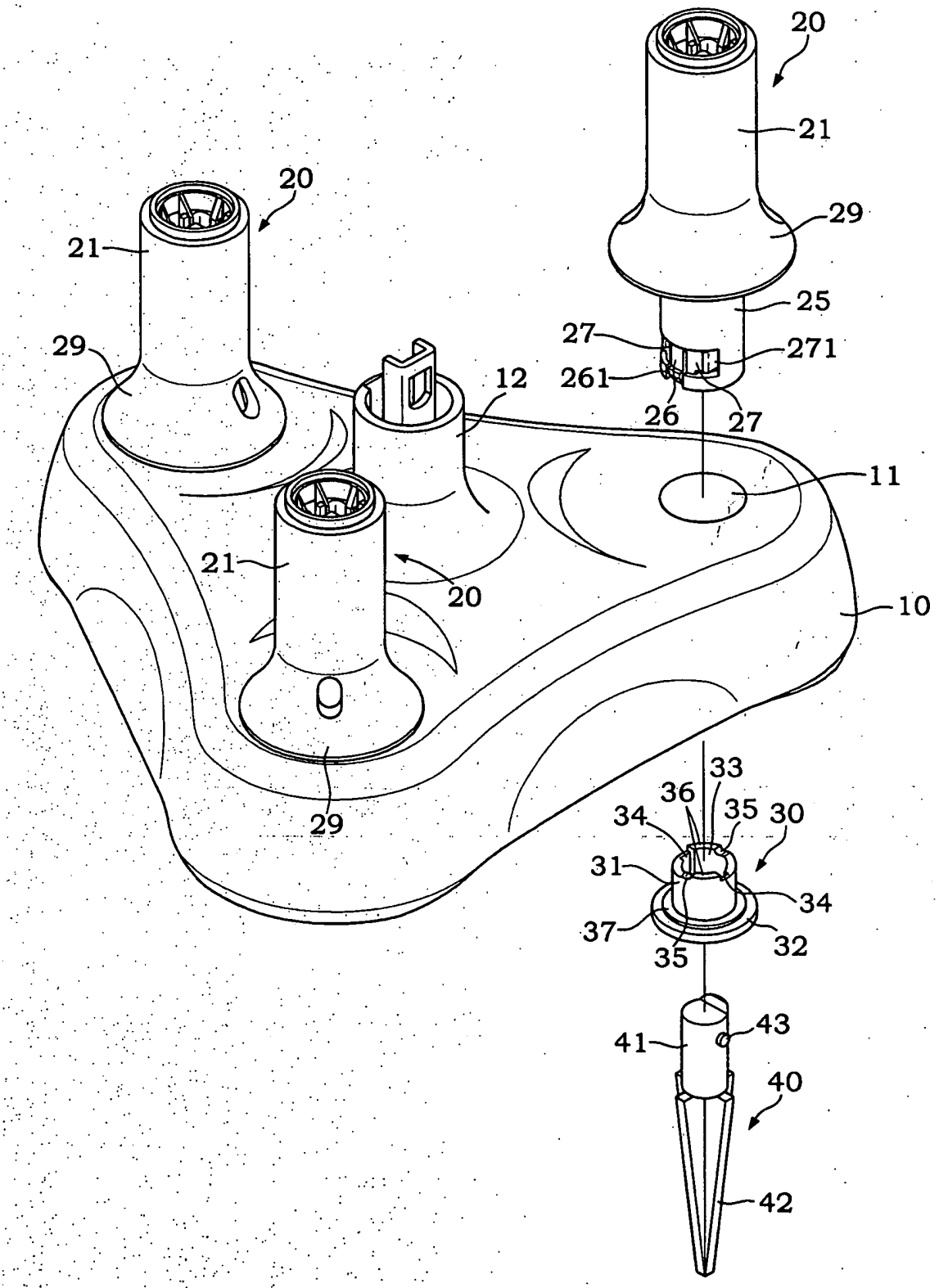

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FIG. 1

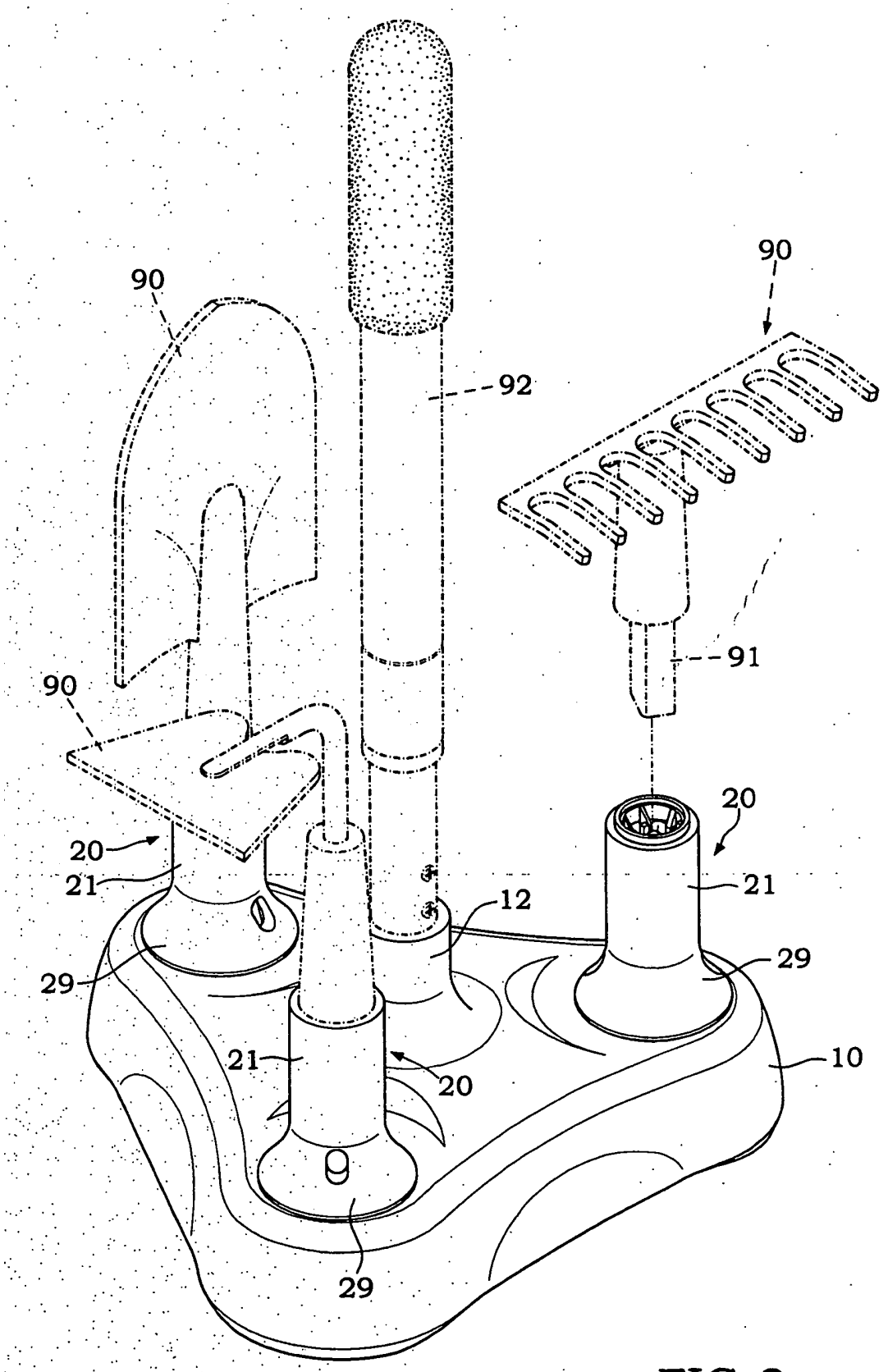


FIG.2

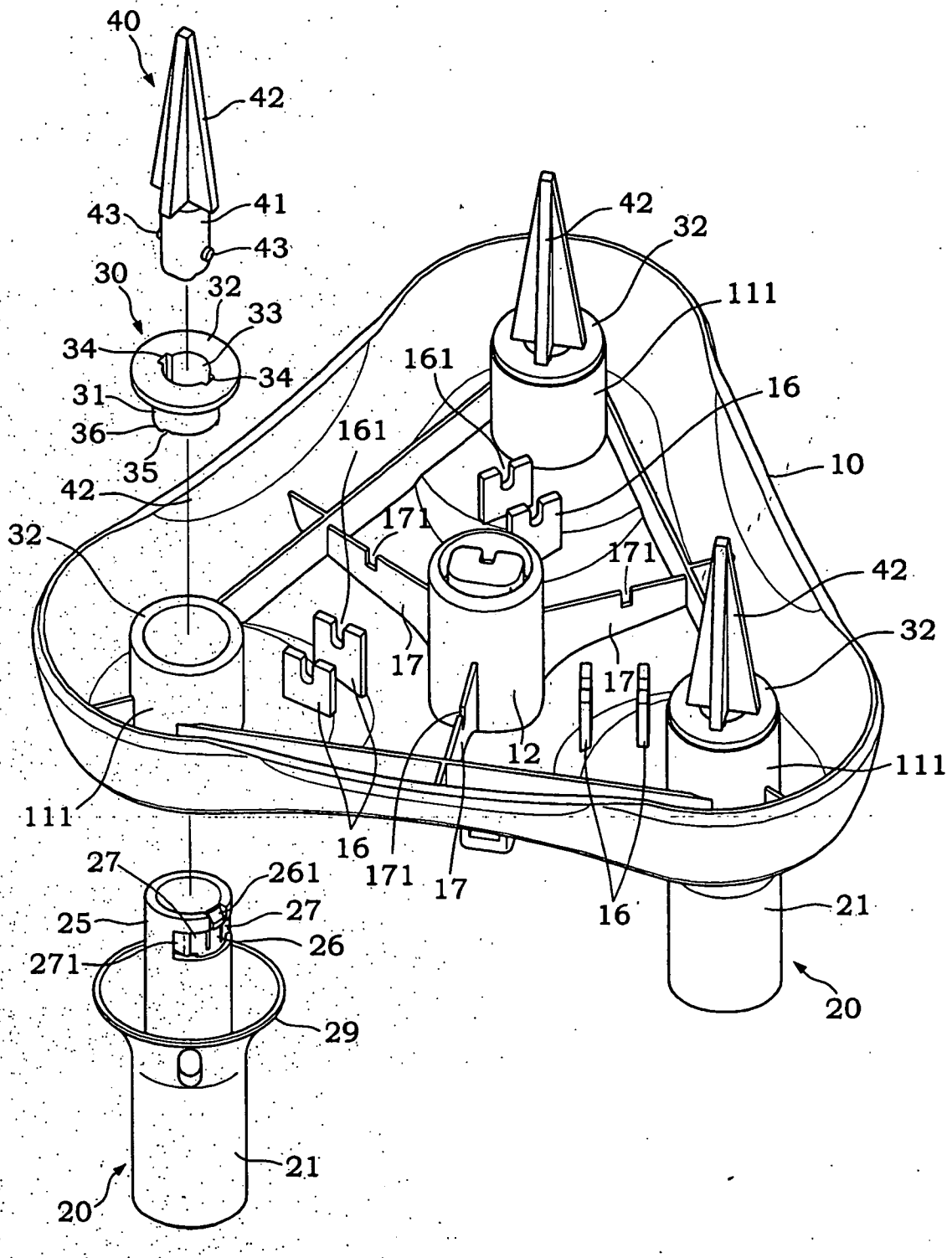

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FIG.3

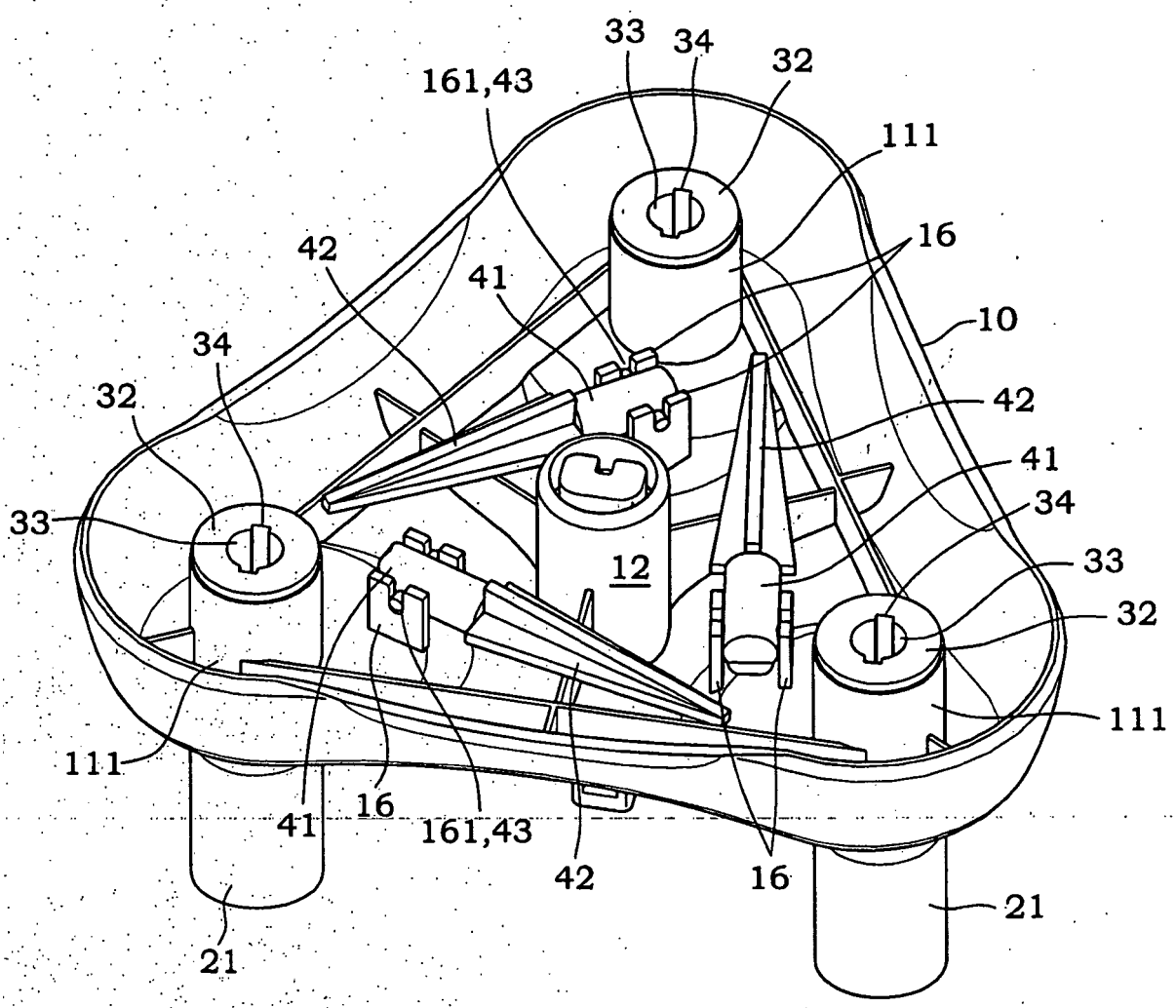

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FIG.4

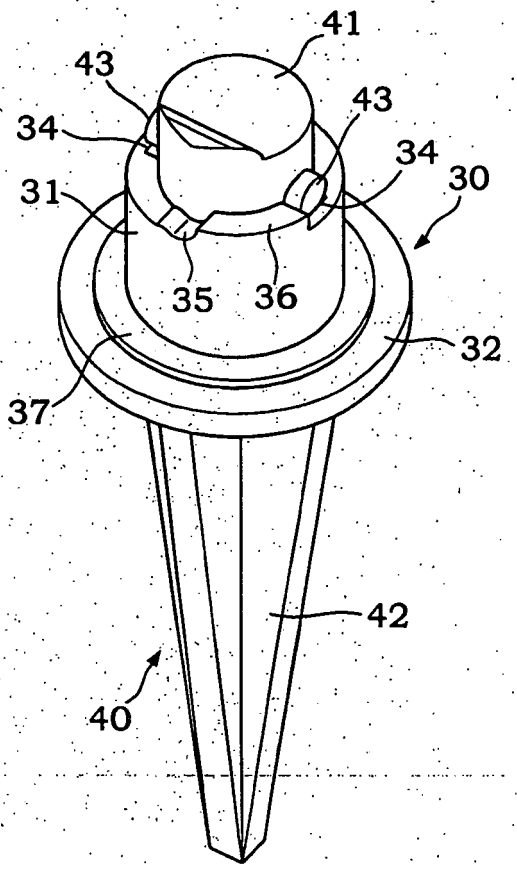

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FIG.5A

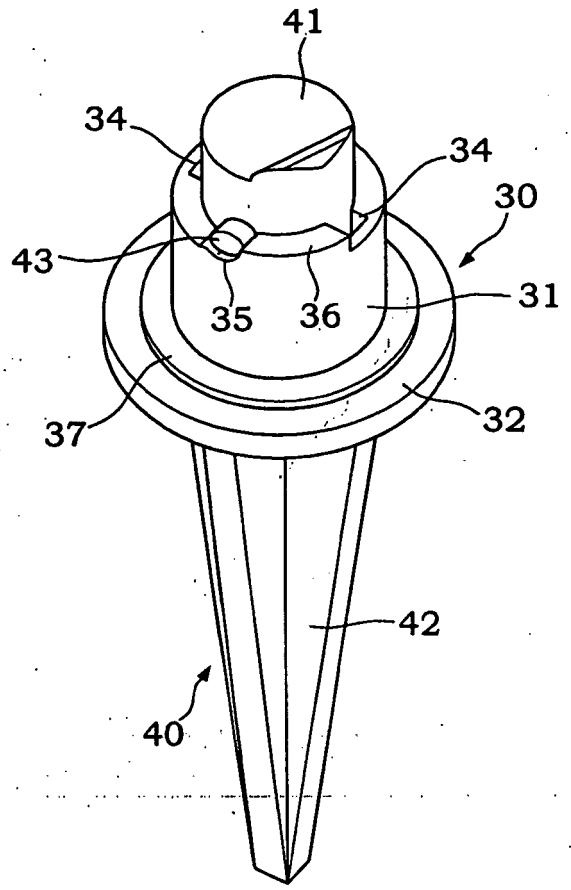

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FIG.5B

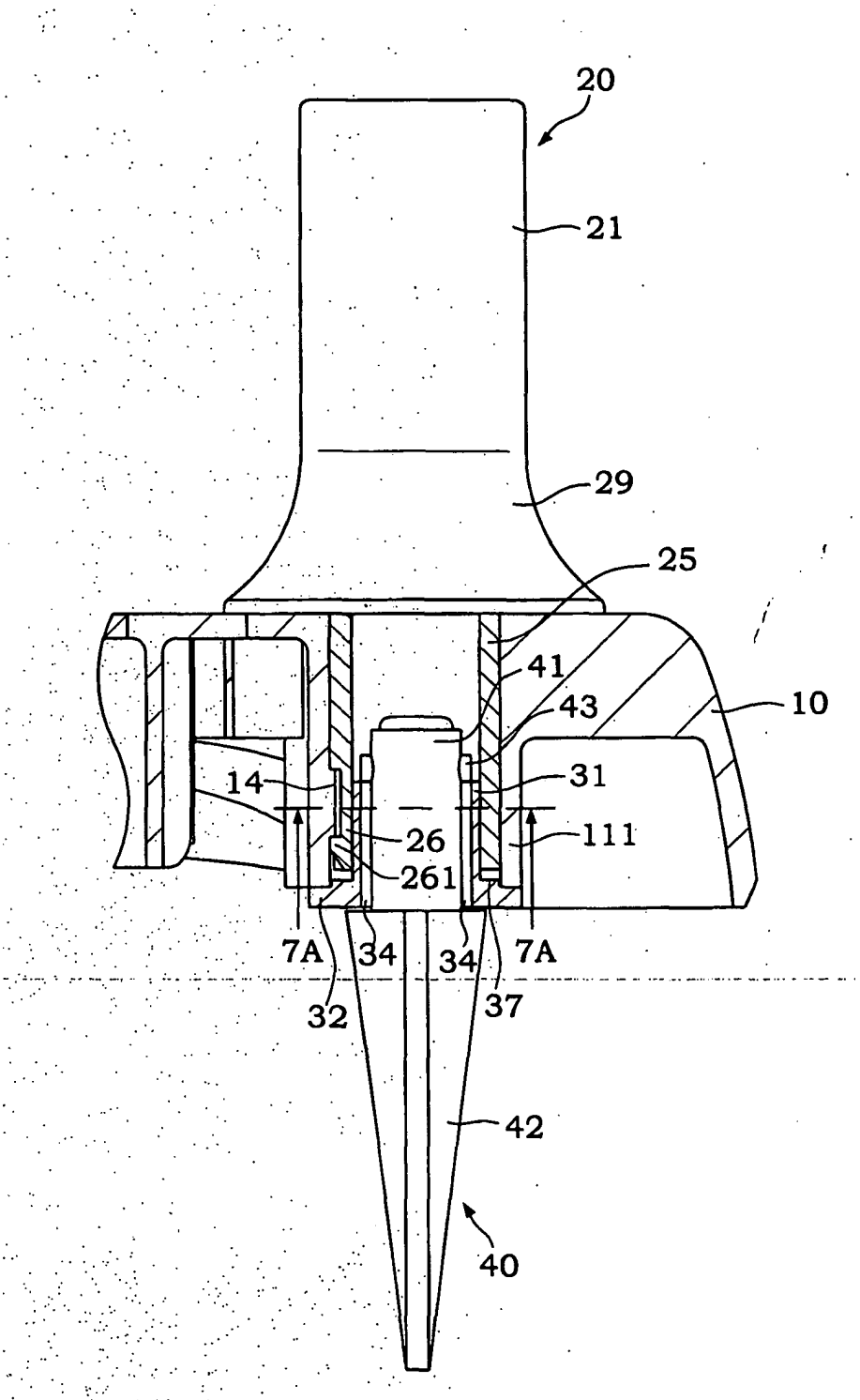


FIG.6

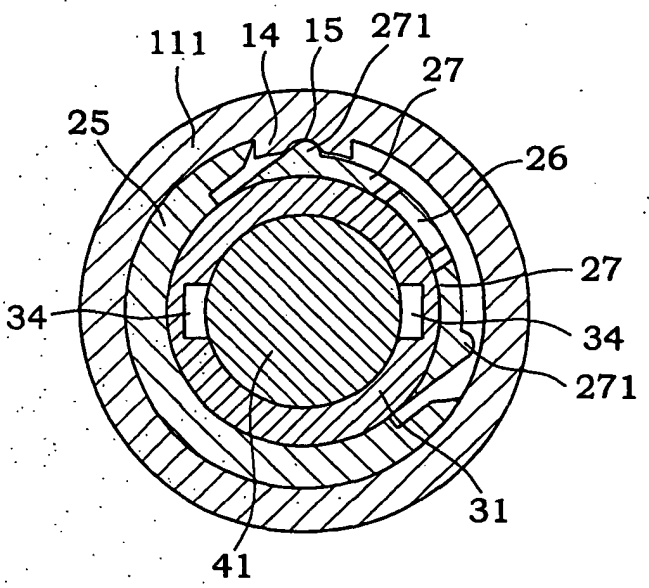

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FIG.7A

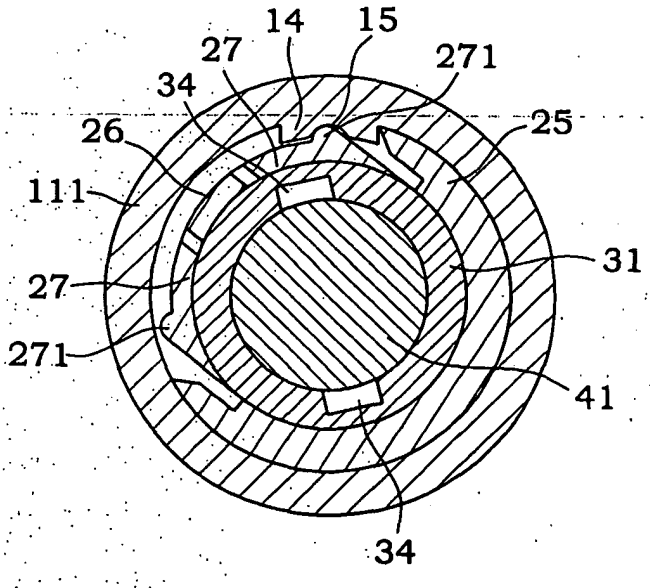

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FIG.7B