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(54) Supporting assembly for portable stove

(57) A supporting assembly (1) includes a base installed a portable stove (2) and having extending portions (11). A plurality of connecting members (20) is pivotally connected with the extending portions. Each of the connecting members (20) includes a connecting wall (21), first and second jaw portions (23,24) respectively extending from two opposite distal ends of the connecting wall (21). A plurality of first supporting members (30) is pivotally connected with the first jaw portions (23). Each of the first supporting members includes a first supporting

portion (33). A plurality of second supporting members (40) is pivotally connected with the second jaw portions (23). Each of the second supporting members (40) includes a second supporting portion (43). The supporting assembly is transformable from a folded storage position to an operative position. The first supporting portions (33) are able to support a cooking vessel thereon. The second supporting portions (43) support the supporting assembly (1) on a supportive plane.

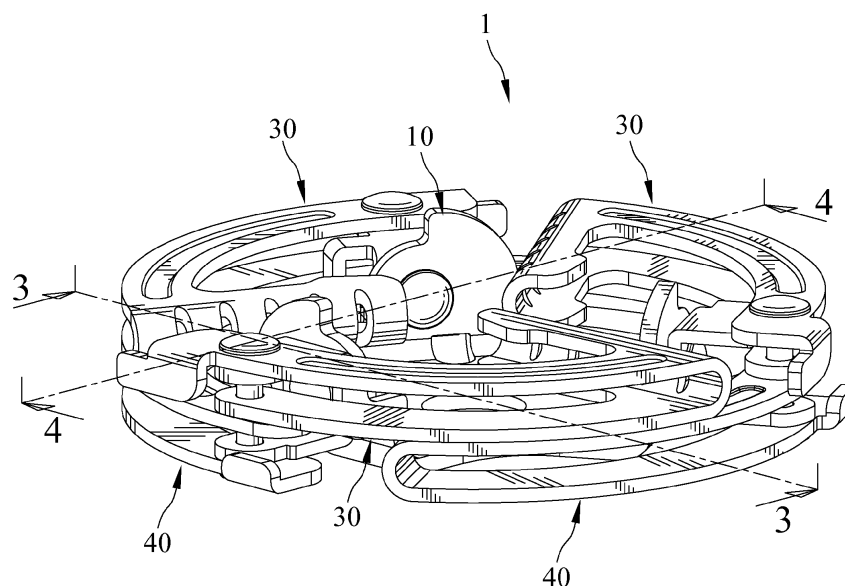


FIG. 1

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Description

Background of the Invention

1. Field of the Invention

[0001] The present invention relates to a supporting assembly and, more particularly, to a supporting assembly for a portable outdoor stove being foldable more compactly.

2. Description of the Related Art

[0002] A conventional portable stove is a cooking stove specially designed to be portable and lightweight, as for camping or picnicking, or for use in remote locations where an easily transportable means of cooking or heating is needed.

[0003] U.S. Patent No. 6,742,514 discloses an outdoor cooking stove including a windscreen for shielding a burner disposed therein, and a support frame for spacing the burner and windscreen upwardly away from a supportive plane such as the ground. The support frame includes three upstanding legs and three cross-braces. Each of the legs is attached to the windscreen using conventional fasteners, such as by welding or by using nuts and bolts. Similarly, the cross-braces are attached to the legs using conventional fasteners. Moreover, the stove includes three vessel support members attached to an inner surface of the windscreen. Although, the stove is reassembled, but assembling that is inconvenient and wasting time.

[0004] FIG. 1 of U.S. Patent No. 7,168,426 discloses a gas stove assembly including a gas stove and a stove stand. However, the stove stand non-collapsible, and the size of that is very large and occupies much space and is inconvenient to carry during the use of the gas stove.

[0005] U.S. Patent No. 5,992,407 discloses a miniature gas stove support including a seat, a plurality of legs, a plurality of vertical bars in the same number as that of said legs, a locating ring, and a plurality of substantially petal-shaped wind shielding members. The vertical bars have internally threaded upper and lower ends, respectively. The internally threaded lower ends of the vertical bars are engaged with the externally threaded head portions of the legs upward projected from the through holes of the seat, so that the legs are fixedly connected to the seat to support the same. Therefore, a user must assemble the seat, the legs, the vertical bars, the locating ring, and the wind shielding members to form a complete miniature gas stove support. However, assembling too many components is inconvenient, cumbersome and a waste of time for use.

[0006] The present invention is, therefore, intended to obviate or at least alleviate the problems encountered in the prior art.

Summary of the Invention

[0007] The present invention solves this need and other problems in the field of a supporting assembly for a portable stove including a base, a plurality of connecting members, a plurality of first supporting members, and a plurality of second supporting members. The base is installed the portable stove and includes a plurality of extending portions extending from a central portion thereof. Each of the plurality of extending portions formed a connecting portion. Each of the plurality of connecting members is pivotally connected with each of the plurality of connecting portions of the base. Each of the plurality of connecting members includes a connecting wall, first and second jaw portions respectively extending from two opposite distal ends of the connecting wall. The plurality of first supporting members each are pivotally connected with each of the plurality of first jaw portions of the plurality of connecting members. Each of the plurality of first supporting members includes a first supporting portion extending from a distal end thereof toward the base. Each of the plurality of second supporting members is pivotally connected with each of the plurality of second jaw portions of the plurality of connecting members. Each of the plurality of second supporting members includes a second supporting portion extending from a distal end thereof.

[0008] The supporting assembly for the portable stove is transformable from a folded storage position to an operative position. The first supporting portions of the plurality of first supporting members are able to support a cooking vessel thereon. The second supporting portions of the plurality of second supporting members support the supporting assembly for the portable stove on a supportive plane.

[0009] An advantage of the supporting assembly for the portable stove according to the present invention is that the supporting assembly is reversibly transformable between a folded storage position and an operative position. When the supporting assembly is disposed in the folded storage position, the plurality of second supporting members and the base are substantially horizontally aligned, and the plurality of second supporting members and the plurality of first supporting members are parallel to each other, so that the supporting assembly is formed in a disc-shape for easy storage or transportation.

[0010] Another advantage of the supporting assembly for the portable stove according to the present invention is that the supporting assembly is transformable from the folded storage position to the operative position without any tools for assembling, and avoids the components thereof lost.

[0011] The present invention will become clearer in light of the following detailed description of illustrative embodiments of this invention described in connection with the drawings.

Brief Description of the Drawings

[0012]

FIG. 1 shows a perspective view of a supporting assembly for a stove according to the present invention, and illustrates the supporting assembly being in a folded storage position.

FIG. 2 shows an exploded, perspective view of the supporting assembly for the portable stove of FIG. 1. FIG. 3 shows a cross-section view taken along line 3-3 of FIG. 1.

FIG. 4 shows a cross-section view taken along line 4-4 of FIG. 1.

FIG. 5 shows a top view of the supporting assembly for the portable stove of FIG. 1, and illustrates first and second supporting members pivoted relative to a connecting member.

FIG. 6 shows a cross-section view of the supporting assembly for the portable stove of FIG. 5, and illustrates the second supporting member further pivoted relative to the connecting member.

FIG. 7 shows a continued view of the supporting assembly for the portable stove of FIG. 5, and illustrates a first abutting section of the first supporting member abutted against a connecting portion of a base.

FIG. 8 shows a side cross-section view of the supporting assembly for the portable stove, and illustrates the connecting member pivoted relative to the base.

FIG. 9 shows a continued view of the supporting assembly for the portable stove of FIG. 8, and illustrates the connecting member pivoted counterclockwise through 90 degrees with respect to the base.

FIG. 10 shows a top view of the supporting assembly for the portable stove of FIG. 9.

FIG. 11 shows a cross-section view taken along line 11-11 of FIG. 10.

FIG. 12 shows another cross-section view of the supporting assembly for the portable stove of FIG. 10.

FIG. 13 shows a perspective view of the supporting assembly for the stove according to the present invention, and illustrates the supporting assembly being in an operative position.

FIG. 14 shows an exploded, perspective view of the supporting assembly for the portable stove, and illustrates the portable stove mounted to the base of the supporting assembly.

FIG. 15 shows a perspective view of the supporting assembly for the portable stove, and illustrates the portable stove mounted to the base of the supporting assembly, with the supporting assembly being in the folded storage position.

FIG. 16 shows a perspective view of the supporting assembly for the portable stove of FIG. 15, and illustrates the supporting assembly being in the operative position.

Detailed Description of the Preferred Embodiment

[0013] FIGS. 1 through 4 show a supporting assembly 1 for a portable stove 2 according to the present invention shown in the drawings. The supporting assembly 1 includes a base 10, a plurality of connecting members 20, a plurality of first and second supporting members 30 and 40. In a preferred form, the number of the plurality of connecting member 20 is the same as that of the plurality of first and second supporting members 30 and 40. An end of each of the plurality of connecting members 20 is pivotally connected with the base 10, and another end of each of the plurality of connecting members 20 is pivotally connected with one of the plurality of first supporting members 30 and one of the plurality of second supporting members 40. In this embodiment, the supporting assembly 1 includes three connecting members 20, three first and three second supporting members 30 and 40, which are correspond to each other.

[0014] The base 10 is substantially formed a Y-shaped cross section and includes three extending portions 11 extending outward from a central portion thereof and formed between three angles of the same angle. Three connecting portions 12 each are vertically extended from distal ends of each of the three extending portions 11. Each of the three connecting portions 12 includes a first through hole 13 extending along a first axis X, and an arc-shaped recess 14 formed at a side edge thereof. The recess 14 has first and second positioning ends 141 and 142, with the first positioning end 141 disposed adjacent to the extending portion 11 and the second positioning end 142 disposed opposite to the first positioning end 141.

[0015] The three connecting members 20 are pivotally connected with the connecting portions 12, respectively. Each of the three connecting members 20 includes a connecting wall 21 abutted against each of the three connecting portions 12 of the base 10, a second through hole 22 extending at the connecting wall 21 along the first axis X and aligned with the first through hole 13 of each of the three connecting portions 12, first and second jaw portions 23 and 24 respectively extending horizontally outwardly from two opposite distal ends of the connecting wall 21 and cooperating to form a gap 25 adapted for receiving the first and second supporting member 30 and 40. The first and second jaw portions 23 and 24 of each of the three of connecting members 20 are respectively axially formed first and second apertures 26 and 27 extending along a second axis Y perpendicular to the first axis X. Moreover, each of the three connecting members 20 further includes a first resisting portion 28 extending from a side edge of the first jaw portion 23 in a direction parallel to the first axis X. Each of the first resisting portions 28 is adapted for extending into each of the recesses 14 of the base 10 and selectively abutting against the first and second positioning ends 141 and 142. Additionally, each of the three connecting members 20 further includes a second resisting portion 29 extending verti-

cally from a side edge of the second jaw portion 24 in a direction parallel to the second axis Y. Each of the three second resisting portions 29 is adapted for abutting against each of the three first supporting members 30.

[0016] Each of the three first supporting members 30 has an arc shape and is pivotally connected with each of the first jaw portions 23 of the three connecting members 20. Each of the three first supporting members 30 includes first and second body portions 31 and 32 connected with each other therein, a first supporting portion 33 extending axially inward from distal ends of the first and second body portions 31 and 32 toward the base 10, a first slot 34 formed between the first and second body portions 31 and 32 and adapted for receiving the first jaw portion 23 of the connecting member 20. The first and second body portions 31 and 32 of each of the three first supporting members 30 are respectively axially formed third and fourth apertures 35 and 36 extending along the second axis Y at terminal ends thereof opposite to the first supporting portion 33. Each of the first body portions 31 includes a first abutting section 37 extending from a side edge of the terminal end thereof and selectively abutting against each of the three connecting portions 12 of the base 10 to provide a positioning function between the three first supporting members 30 and the base 10. A bottom face of each of the second body portions 32 facing each of the three second supporting members 40 is formed a groove 38 being engagable with the second supporting member 40.

[0017] Each of the three second supporting members 40 has an arc shape and is pivotally connected with each of the second jaw portions 24 of the three connecting members 20. Each of the three second supporting members 40 includes third and fourth body portions 41 and 42 connected with each other therein, a second supporting portion 43 formed between distal ends of the third and fourth body portions 41 and 42, a second slot 44 formed between the third and fourth body portions 41 and 42 and adapted for receiving the second jaw portions 24 of the connecting member 20. The third and fourth body portions 41 and 42 of each of the three second supporting member 40 are respectively axially formed fifth and sixth apertures 45 and 46 extending along the second axis Y at terminal ends thereof opposite to the second supporting portion 43. Each of the fourth body portions 42 includes a second abutting section 47 extending from a side edge of a terminal end thereof toward the third body portion 41 and selectively abutting against the second jaw portion 24 of each of the three connecting members 20 to provide positioning function between the second supporting member 40 and the connecting members 20. A top face of each of the third body portions 41 is formed a bump 48 being engagable with the groove 38 of each of the second body portions 32.

[0018] A plurality of first fasteners 50 respectively pass through each of the second through holes 22 of the connecting members 20 and each of the first through holes 13 of the connecting portions 12. Then each of the plu-

rality of connecting members 20 are pivotally connected with each of the plurality of connecting portions 12 along the first axis X by riveting.

[0019] A plurality of second fasteners 60 respectively pass through each of third apertures 35 of the first supporting members 30, each of the first apertures 26 of the connecting members 20, each of the fourth apertures 36 of the first supporting members 30, each of the fifth apertures 45 of the second supporting members 40, each of the second apertures 27 of the connecting members 20, and each of the sixth apertures 46 of the second supporting members 40. Then each of the plurality of first and second supporting members 30 and 40 are both pivotally connected with each of the plurality of connecting member 20 along the second axis Y by riveting.

[0020] The supporting assembly 1 for the portable stove 2 is reversibly transformable between a folded storage position and an operative position. When the supporting assembly 1 is disposed in the folded storage position, the three second supporting members 40 and the base 10 are substantially horizontally aligned, and the three second supporting members 40 and the three first supporting members 30 are parallel to each other, so that the supporting assembly 1 is formed in a disc-shape for easy storage or transportation. Each of the first resisting portions 28 of the three connecting members 20 is abutted against the first positioning end 141 of each of the recesses 14, with each of the second body portions 32 of the three first supporting members 30 abutted against each of the third body portions 41 of the three second supporting members 40, with each of the first supporting portions 33 of the three first supporting members 30 engaged with a space formed between two of the three connecting portions 12, with each of the bumps 48 of each of the three second supporting members 40 engaging into each of the grooves 38 of each of the three first supporting members 30 to provide a positioning function between the first and second supporting members 30 and 40.

[0021] FIGS. 5 through 7 show one of the three first supporting members 30 pivoted clockwise through a first angle with respect to one of the of the three connecting members 20 along the second axis Y, and one of the three second supporting members 40 is pivoted counter-clockwise through a second angle with respect to one of the of the three connecting members 20 along the second axis Y, with one of the first supporting portions 33 of the three first supporting members 30 disengaged from the space formed between two of the three connecting portions 12, with one of the second abutting sections 47 of the three second supporting members 40 abutted against one of the second jaw portions 24 of the three connecting members 20, with one of the bumps 48 of one of the three second supporting members 40 disengaging from one of the grooves 38 of one of the three first supporting members 30. Moreover, the first angle is greater than the second angle.

[0022] FIGS. 8 through 13 show one of the three con-

necting members 20 pivoted counterclockwise through 90 degrees with respect to the base 10 along the first axis X to cause the second axis Y rotated through 90 degrees with respect to the first axis X, with one of the first resisting portions 28 of the three connecting members 20 abutted against one of the second positioning ends 142 of the recesses 14, with one of the first abutting sections 37 of one of the three first supporting members 30 abutted against one of the three connecting portions 12 of the base 10 and one of the connecting walls 21 of the three connecting members 20. Therefore, the supporting assembly 1 for the portable stove 2 is transformable from the folded storage position to the operative position. Additionally, the first supporting portions 33 of the three first supporting members 30 are able to support a cooking vessel thereon, such as a pot or pan, and the second supporting portions 43 of the three second supporting members 40 are able to support the supporting assembly 1 for the portable stove 2 on a supportive plane such as the ground to cause a convection space formed between.

[0023] FIGS. 14 through 16 show the portable stove 2 mounted on the base 10 of the supporting assembly 1 and includes a burner core 71, a frame 72, and a seat 73. The burner core 71 and the seat 73 are assembled at two opposite ends of the base 10. The frame 72 is disposed between the burner core 71 and the seat 73.

Claims

1. A supporting assembly (1) for a portable stove (2) comprising:

a base (10) installed the portable stove (2) and including a plurality of extending portions (11) extending from a central portion thereof, with each of the plurality of extending portions formed a connecting portion (12);

a plurality of connecting members (20) each pivotally connected with each of the plurality of connecting portions (12) of the base (10), with each of the plurality of connecting members (20) including a connecting wall (21), first and second jaw portions (23,24) respectively extending from two opposite distal ends of the connecting wall (21);

a plurality of first supporting members (30) each pivotally connected with each of the plurality of first jaw portions (23) of the plurality of connecting members (20), with each of the plurality of first supporting members (30) including a first supporting portion (33) extending from a distal end thereof toward the base (10); and

a plurality of second supporting members (40) each pivotally connected with each of the plurality of second jaw portions (24) of the plurality of connecting members (20), with each of the

plurality of second supporting members (40) including a second supporting portion (43) extending from a distal end thereof;

wherein the supporting assembly (1) for the portable stove (2) is transformable from a folded storage position to an operative position, with the first supporting portions (33) of the plurality of first supporting members (30) able to support a cooking vessel thereon, with the second supporting portions (43) of the plurality of second supporting members (40) supporting the supporting assembly (1) for the portable stove (2) on a supportive plane.

2. The supporting assembly (1) for the portable stove (2) as claimed in claim 1, wherein each of the plurality of connecting portions (12) includes a first through hole (13) extending along a first axis (X), with each of the plurality of connecting members (20) including a second through hole (22) extending at the connecting wall (21) along the first axis (X), with a plurality of first fasteners (50) respectively passing through the second through holes (22) of the plurality of connecting members (20) and the first through holes (13) of the plurality of connecting portions (12) to cause each of the plurality of connecting members (20) pivotally connected with each of the plurality of connecting portions (12) of the base (10) along the first axis (X).

3. The supporting assembly (1) for the portable stove (2) as claimed in claim 2, wherein each of the plurality of first supporting members (30) includes first and second body portions (31,32) connected with each other, and the first supporting portion (33) extending axially inward from distal ends of the first and second body portions (31,32) toward the base (10), wherein each of the plurality of second supporting members (40) includes third and fourth body portions (41,42) connected with each other, and the second supporting portion (43) formed between distal ends of the third and fourth body portions (41,42).

4. The supporting assembly (1) for the portable stove (2) as claimed in claim 3, wherein the first and second jaw portions (23,24) of each of the plurality of connecting members (20) are respectively axially formed first and second apertures (26,27) extending along a second axis (Y) perpendicular to the first axis (X);

wherein the first and second body portions (31,32) of each of the plurality of first supporting members (30) are respectively axially formed third and fourth apertures (35,36) extending along the second axis (Y) at terminal ends thereof opposite to the first supporting portion (33);

wherein the third and fourth body portions (41,42) of each of the plurality of second supporting member

(40) are respectively axially formed fifth and sixth apertures (45,46) extending along the second axis (Y) at terminal ends thereof opposite to the second supporting portion (43);

wherein a plurality of second fasteners (60) respectively pass through the third apertures (35) of the first supporting members (30), the first apertures (26) of the connecting members (20), the fourth apertures (36) of the first supporting members (30), the fifth apertures (45) of the second supporting members (40), the second apertures (27) of the connecting members (20), and the sixth apertures (46) of the second supporting members (40) to cause each of the plurality of first and second supporting members (30,40) both pivotally connected with each of the plurality of connecting member (20) along the second axis (Y).

5. The supporting assembly (1) for the portable stove (2) as claimed in any one of claims 1-4, wherein a bottom face of each of the plurality of first supporting members (30) is formed a groove (38), with a top face of each of the plurality of second supporting member (40) formed a bump (48) being engagable with the groove (38) of each of the plurality of first supporting members (30);
wherein when the supporting assembly (1) is disposed in the folded storage position, with each of the bumps (48) engaging into each of the grooves (38) to provide a positioning function between the plurality of first and second supporting members (30,40);
wherein when the supporting assembly (1) is disposed in the operative position, with each of the bumps (48) disengaging from each of the grooves (38).

6. The supporting assembly (1) for the portable stove (2) as claimed in any one of claims 1-5, wherein each of the plurality of connecting portions (12) includes an recess (14) formed at a side edge thereof, with the recess (14) has first and second positioning ends (141,142), with the first positioning end (141) disposed adjacent to the extending portion (11), with the second positioning end (142) disposed opposite to the first positioning end (141), with each of the plurality of connecting members (20) including a first resisting portion (28) extending from a side edge of the first jaw portion (23) in a direction parallel to the first axis (X);
wherein when the supporting assembly (1) is disposed in the folded storage position, each of the first resisting portions (28) of the plurality of connecting members (20) is abutted against the first positioning end (141) of each of the recesses (14),
wherein when the supporting assembly (1) is disposed in the operative position, each of the first resisting portions (28) of the plurality of connecting members (20) is abutted against the second posi-

tioning end (142) of each of the recesses (14).

7. The supporting assembly (1) for the portable stove (2) as claimed in any one of claims 4-6, wherein each of the plurality of connecting members (20) are pivotally connected with each of the plurality of connecting portions (12) along the first axis (X) by riveting; wherein each of the plurality of first and second supporting members (30,40) are both pivotally connected with each of the plurality of connecting member (20) along the second axis (Y) by riveting.
8. The supporting assembly (1) for the portable stove (2) as claimed in any one of claims 1-7, wherein each of the plurality of first supporting members (30) has an arc shape, wherein each of the plurality of second supporting members (40) has an arc shape.
9. The supporting assembly (1) for the portable stove (2) as claimed in claim in any one of claims 1-8, wherein the base (10) is formed a Y-shaped cross section and includes three extending portions (11) extending outward from the central portion thereof and formed between three angles of the same angle.
10. The supporting assembly (1) for the portable stove (2) as claimed in claim 9, wherein when the supporting assembly (1) is disposed in the folded storage position, each of the first supporting portions (33) of the plurality of first supporting members (30) is engaged with a space formed between two of the three connecting portions (12).

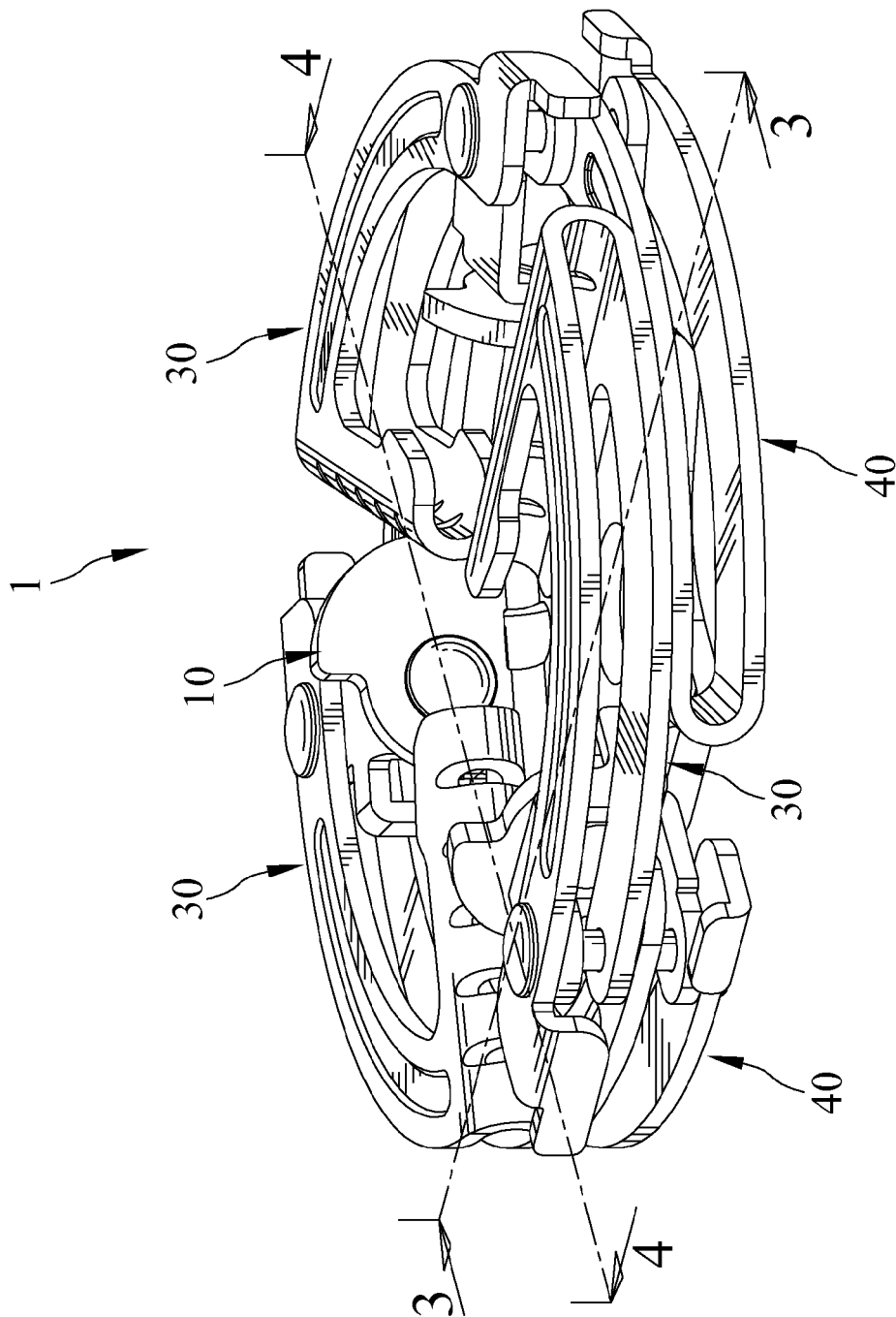


FIG. 1

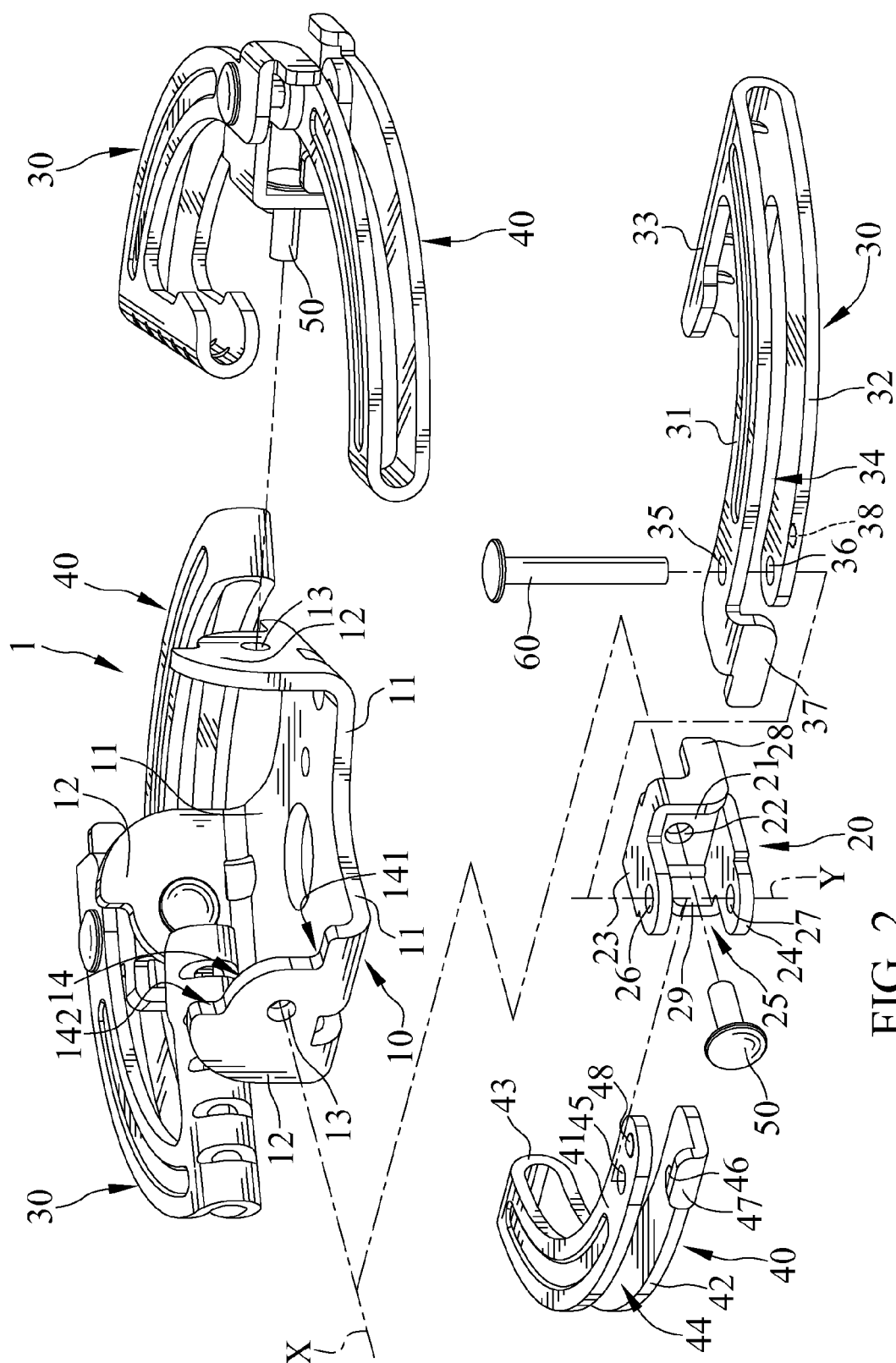


FIG. 2

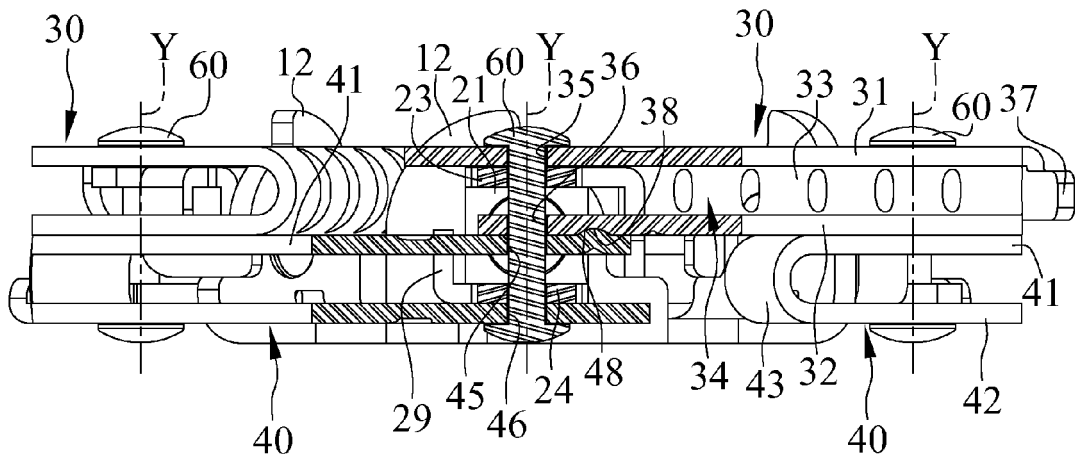


FIG. 3

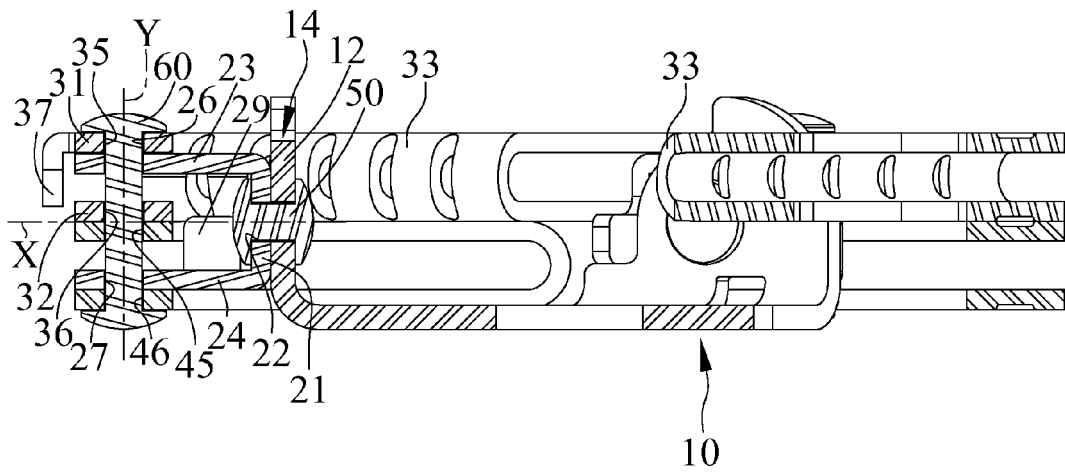


FIG. 4

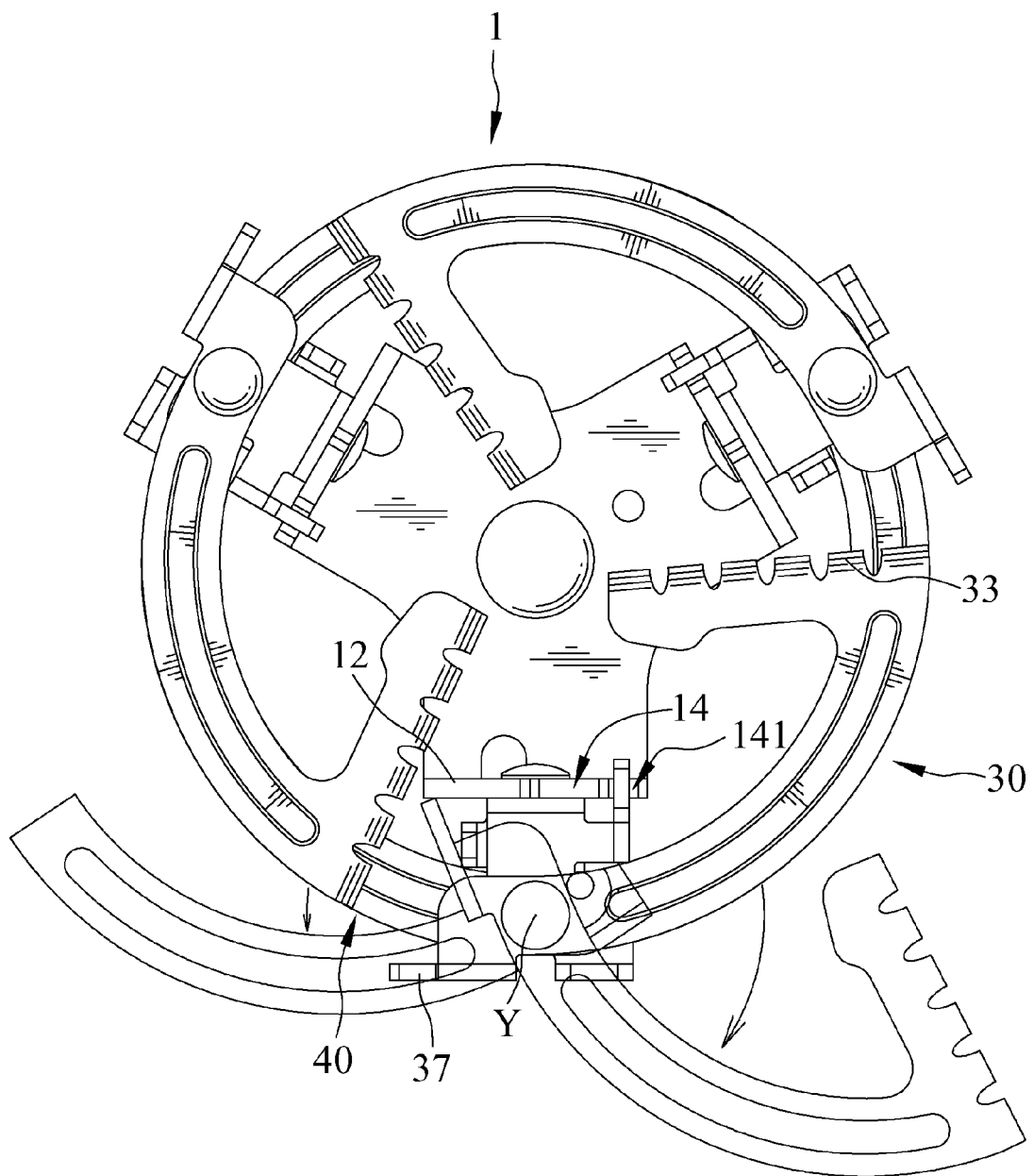


FIG. 5

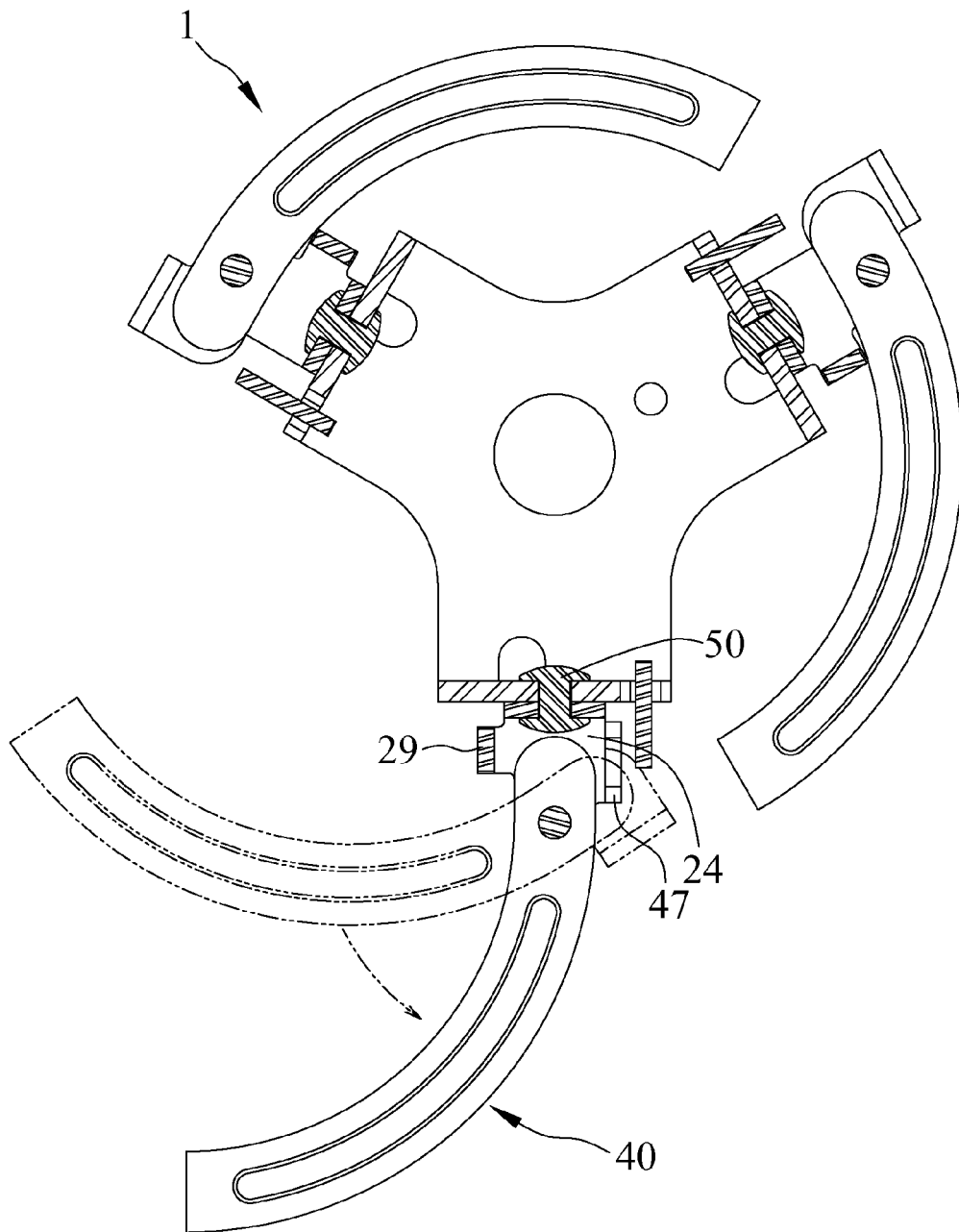


FIG. 6

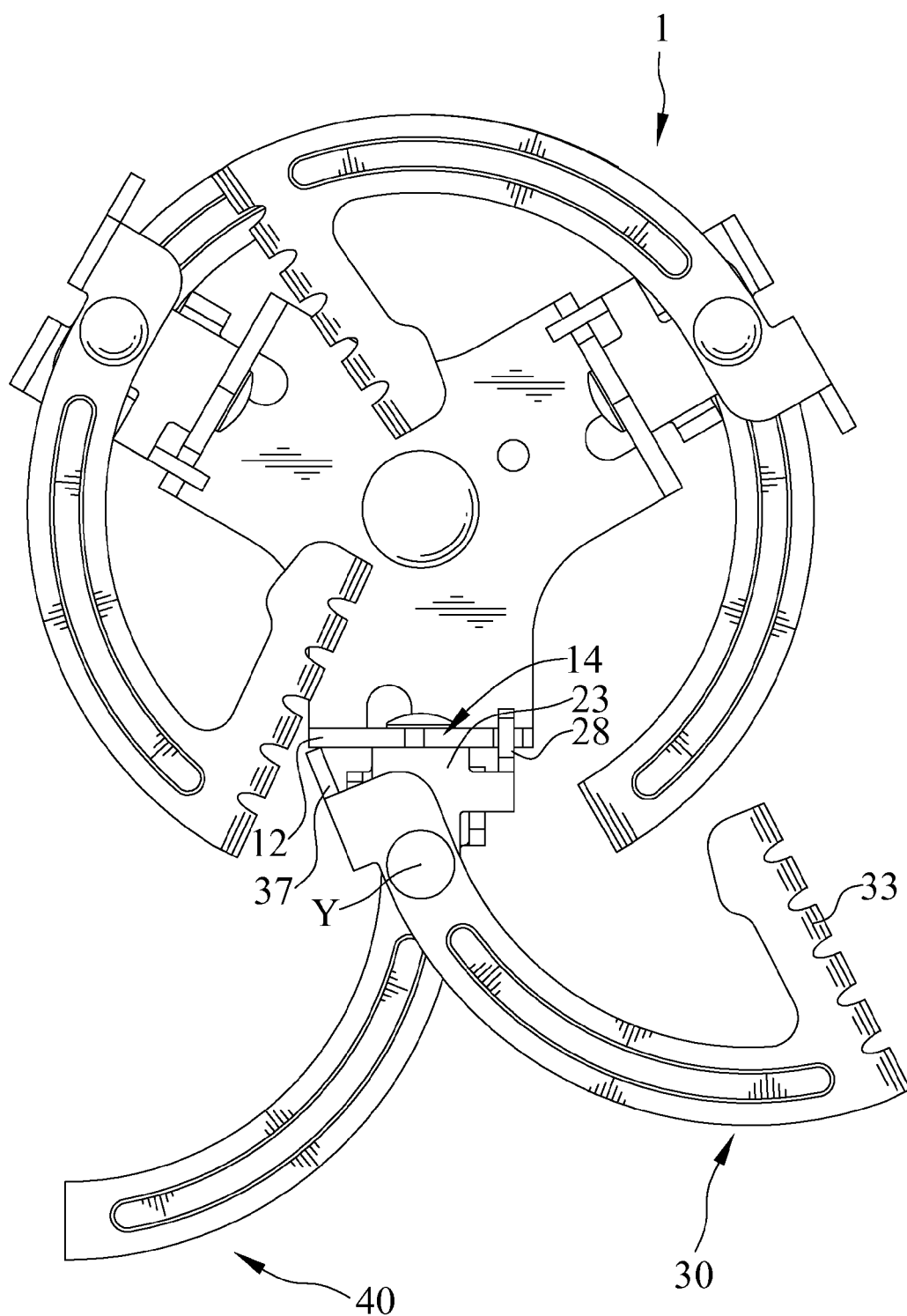


FIG. 7

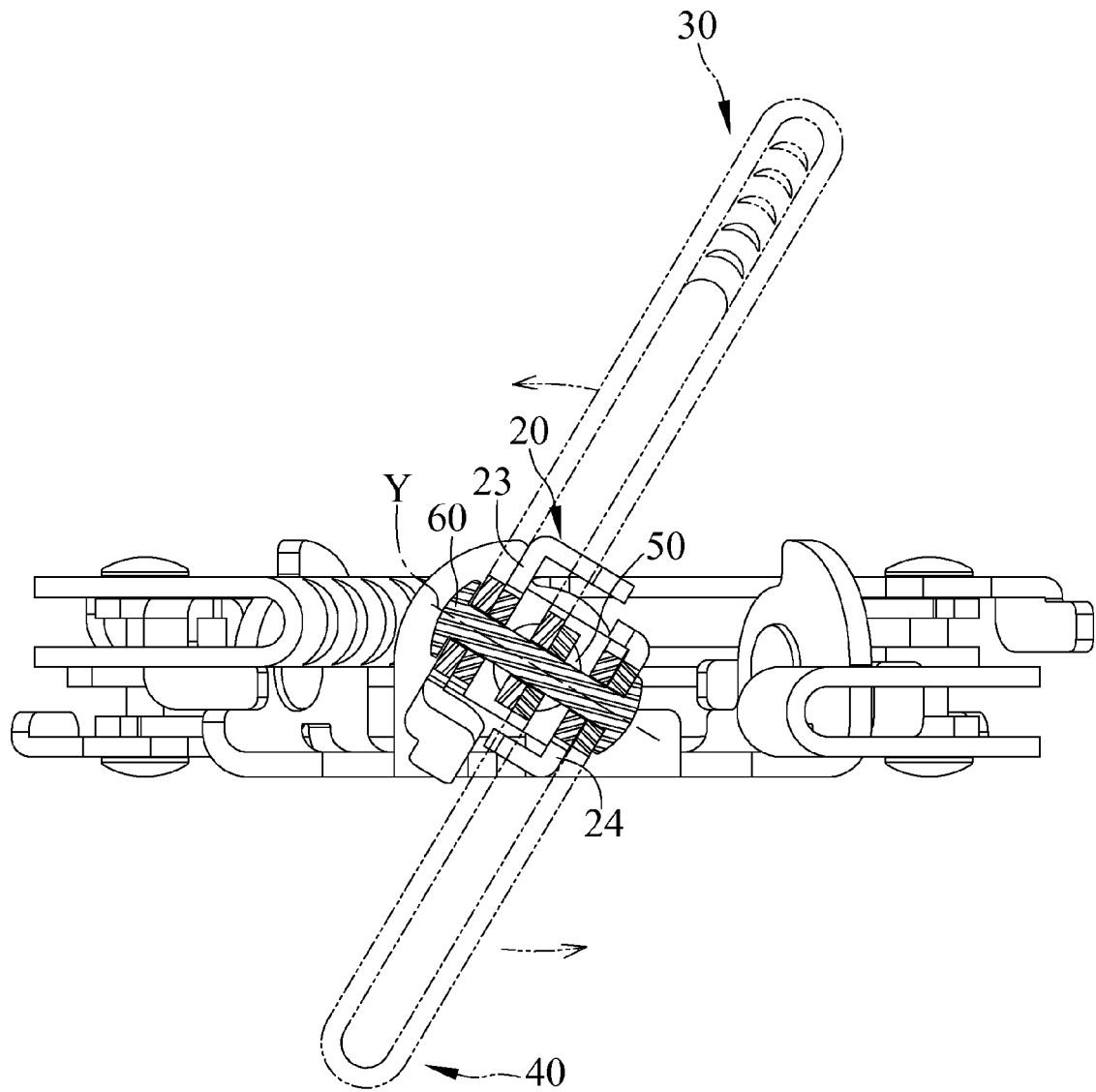


FIG. 8

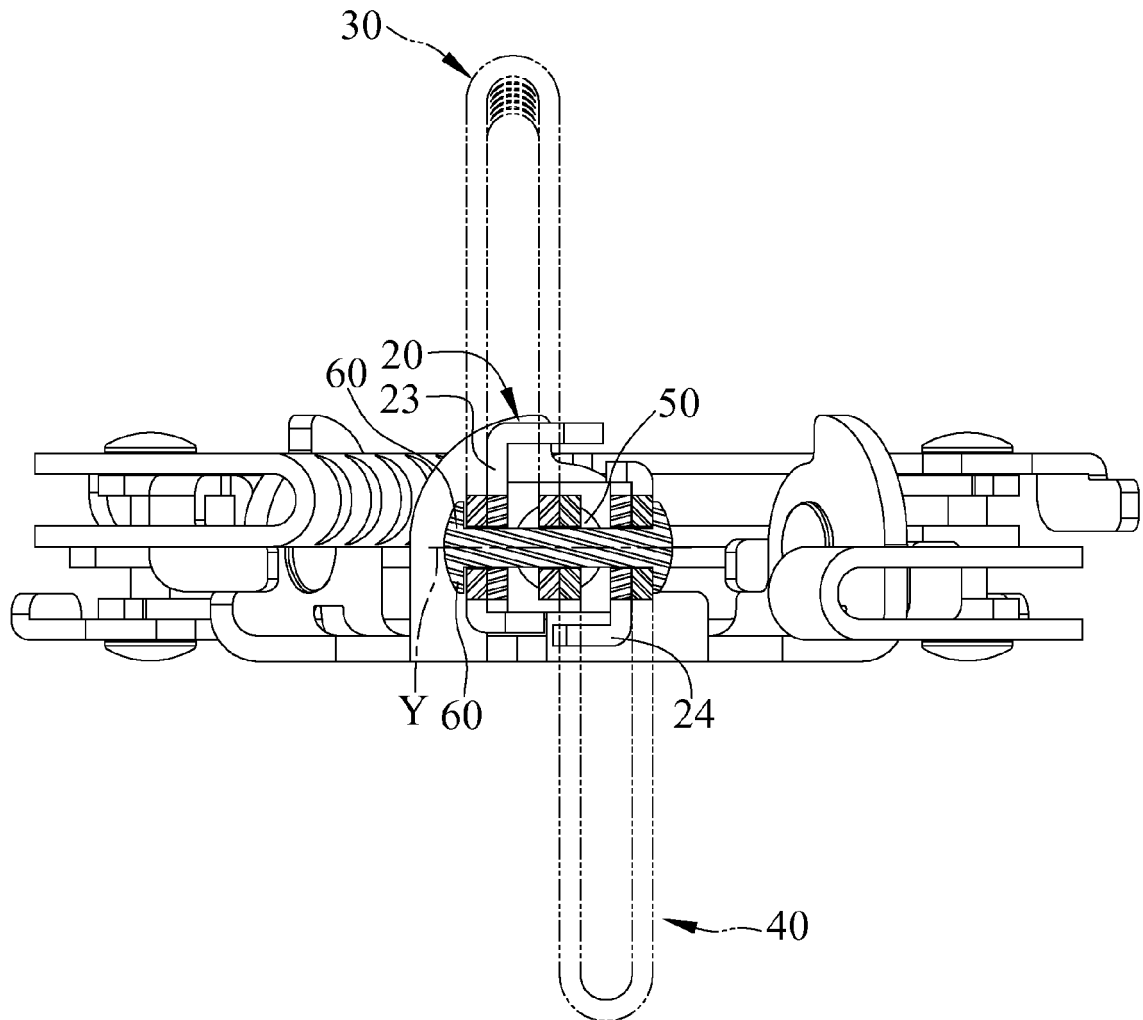


FIG. 9

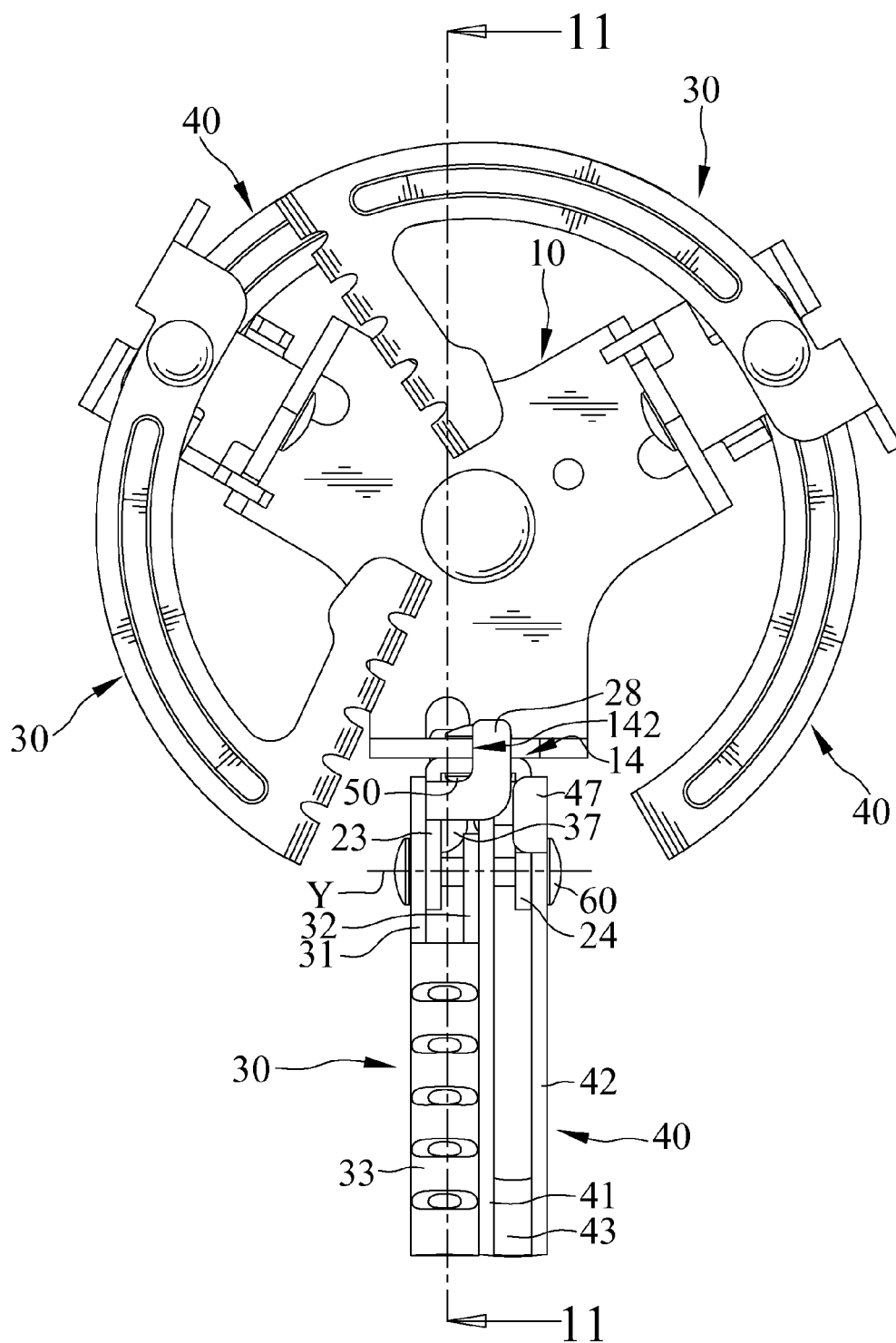


FIG. 10

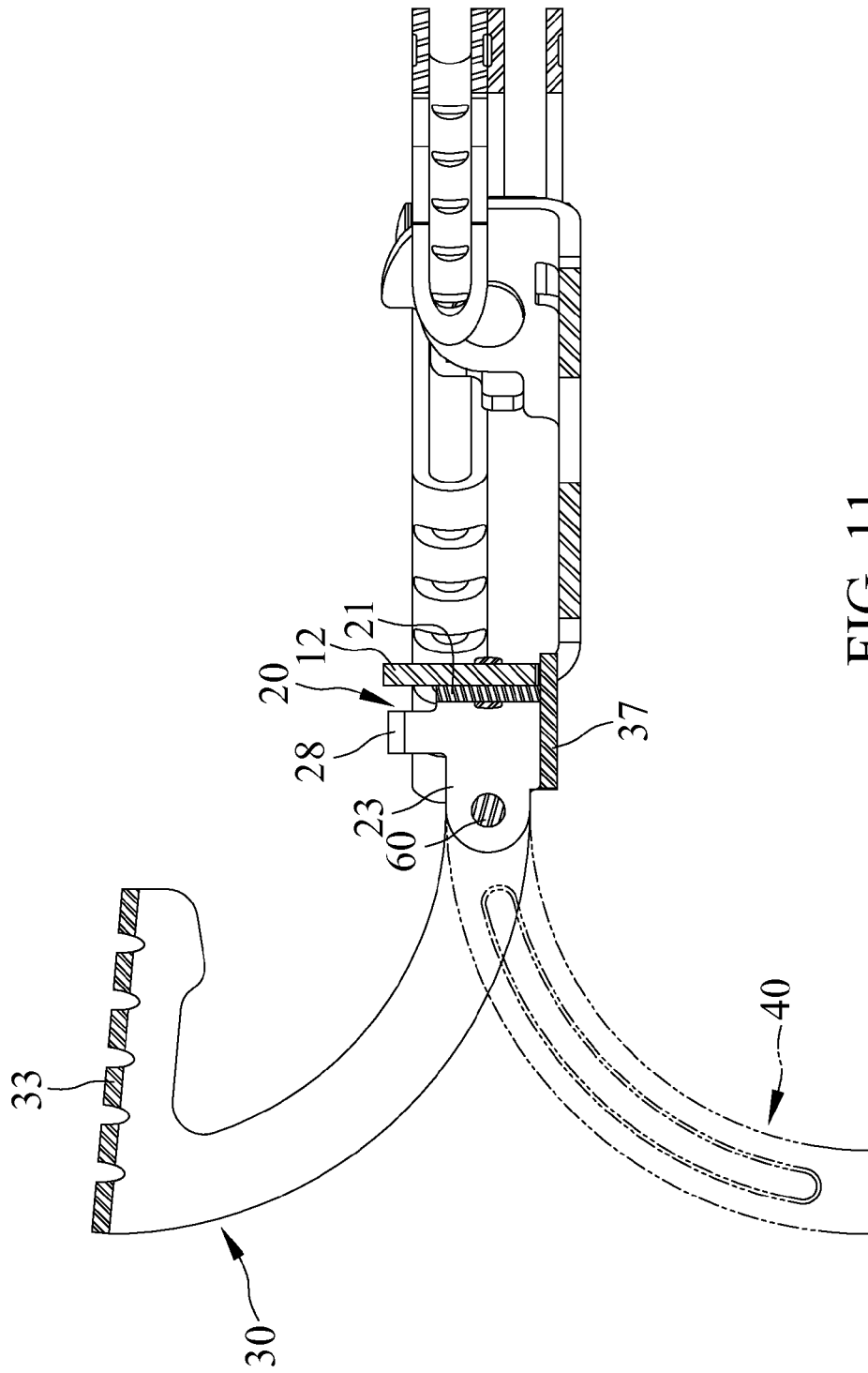


FIG. 11

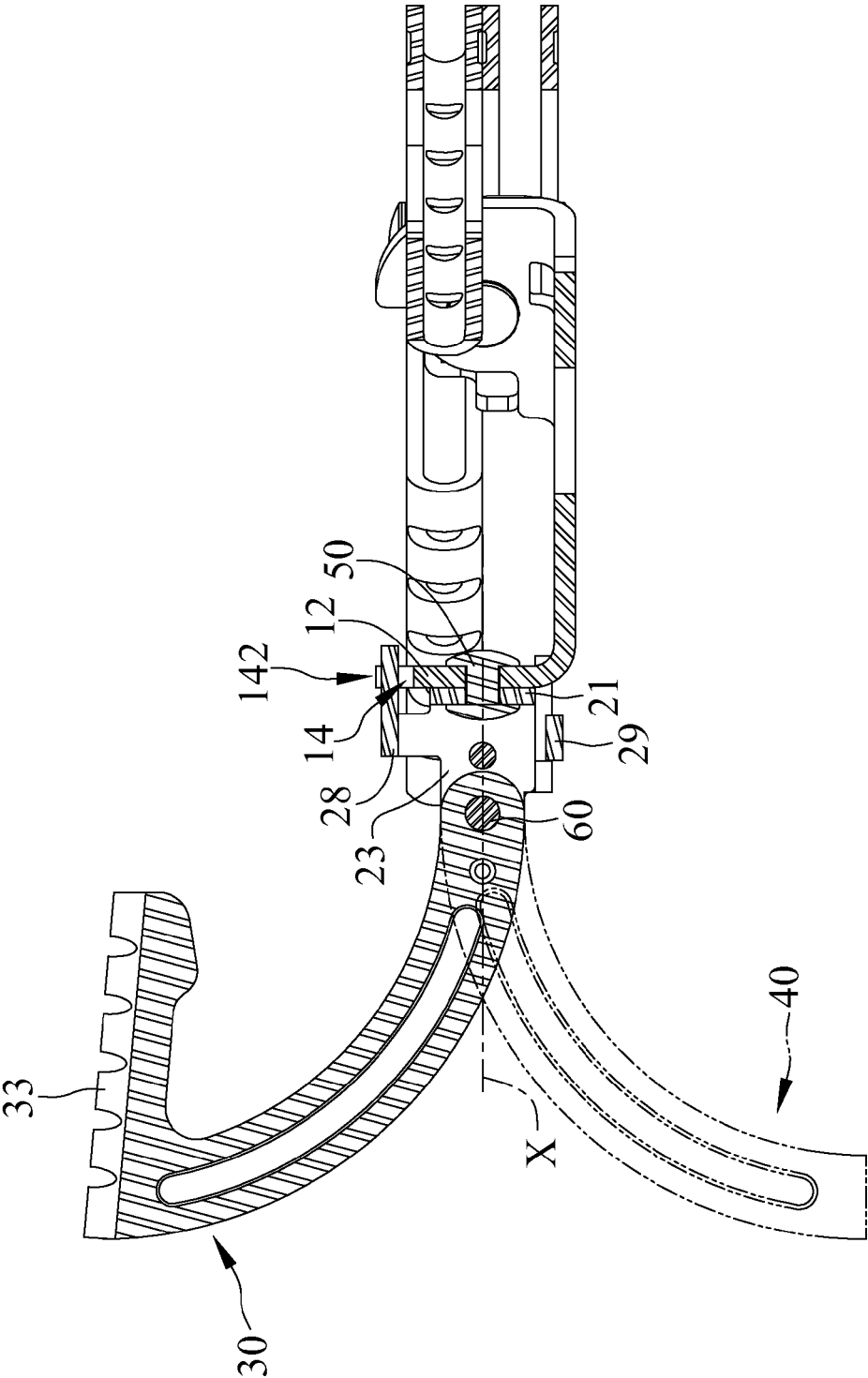


FIG. 12

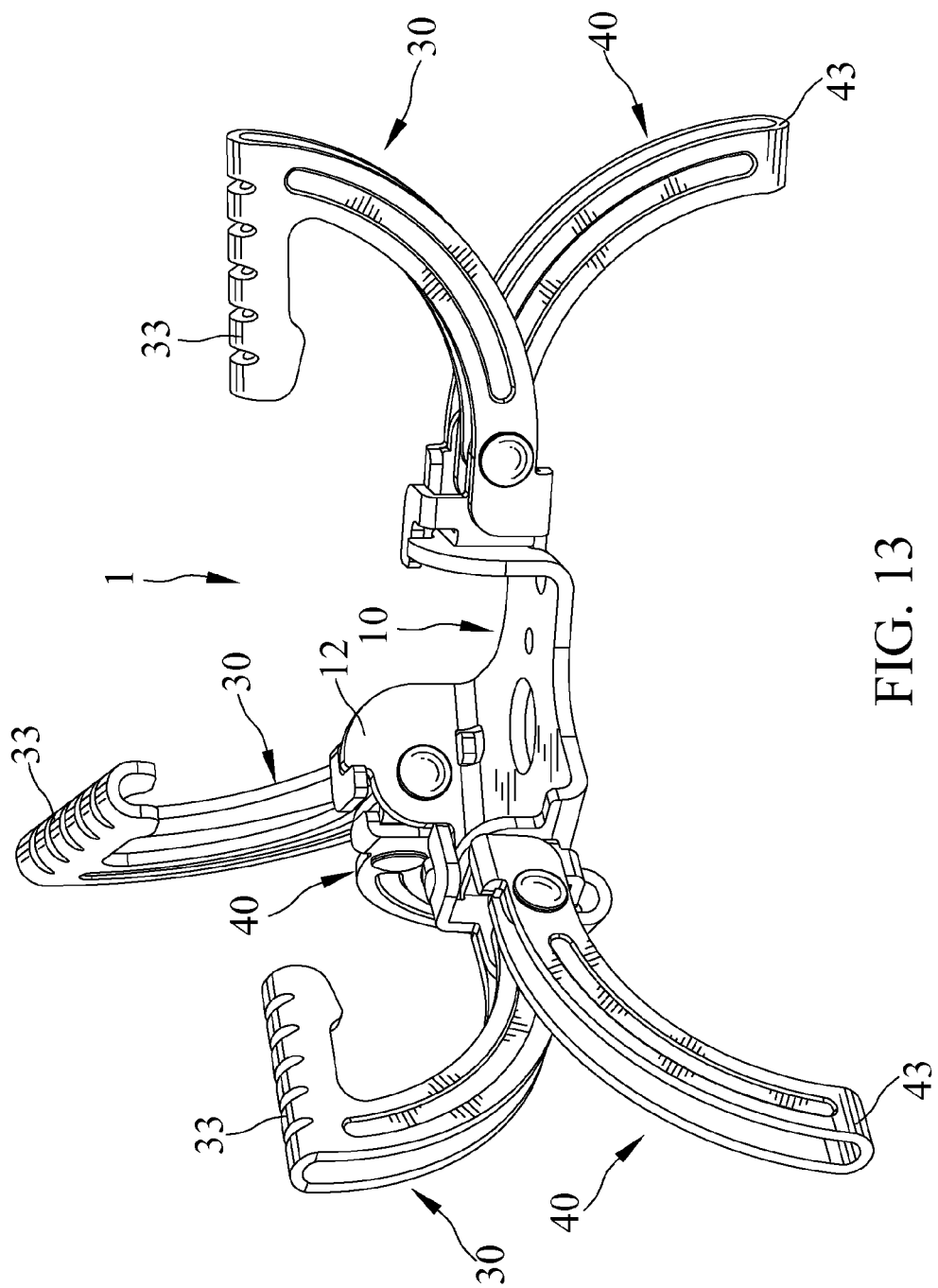
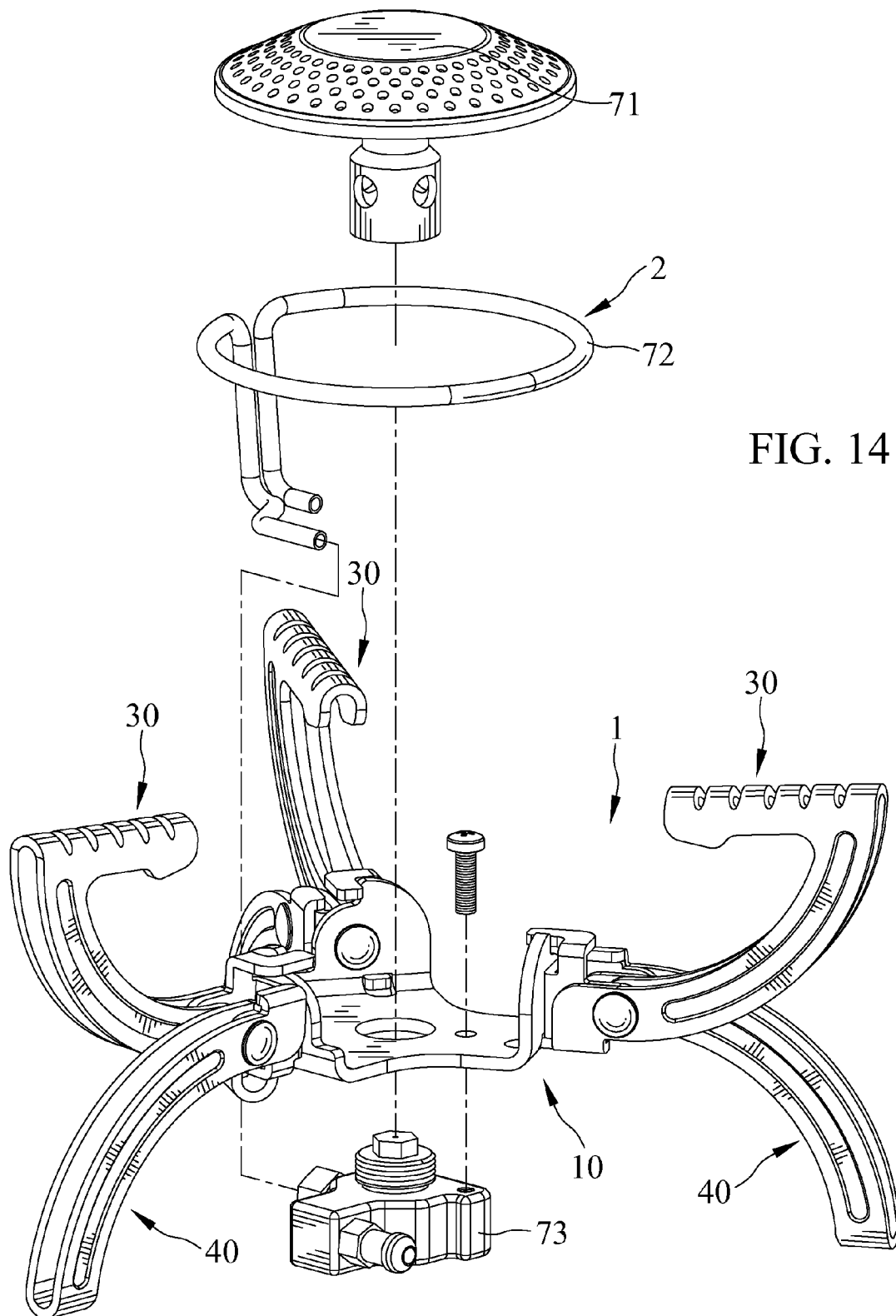


FIG. 13



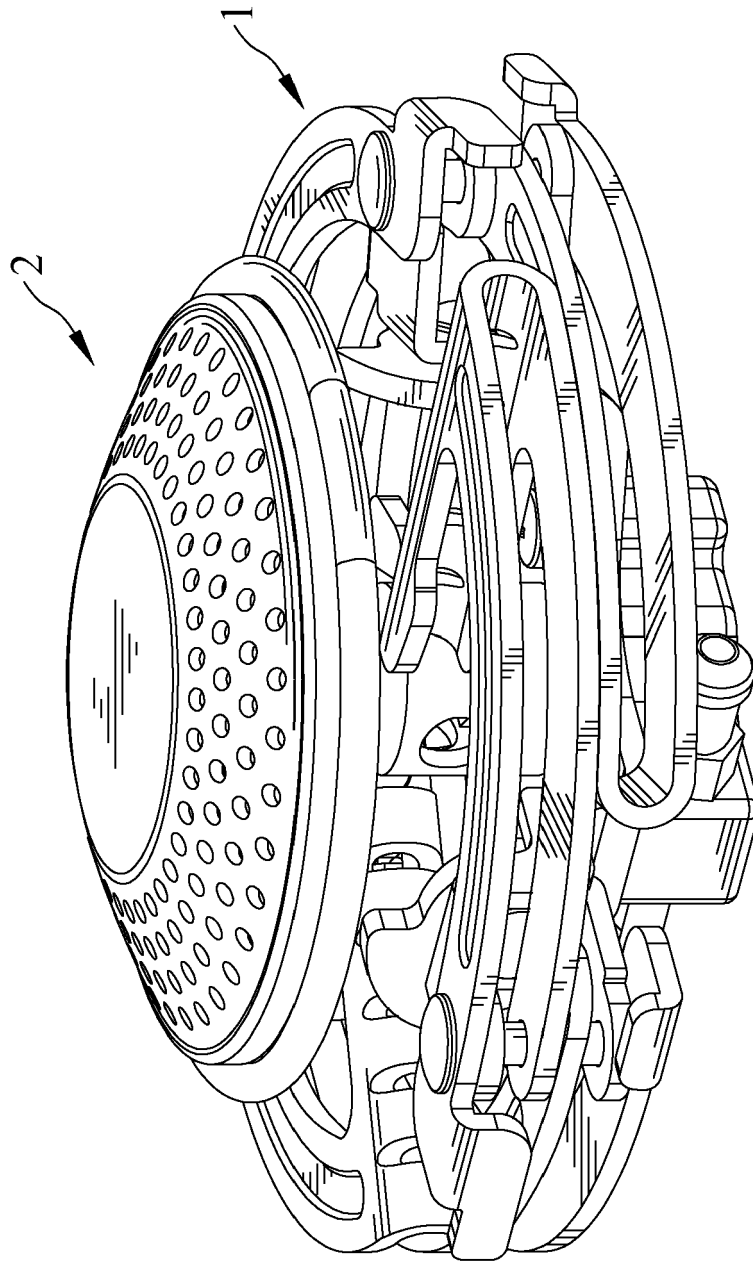


FIG. 15

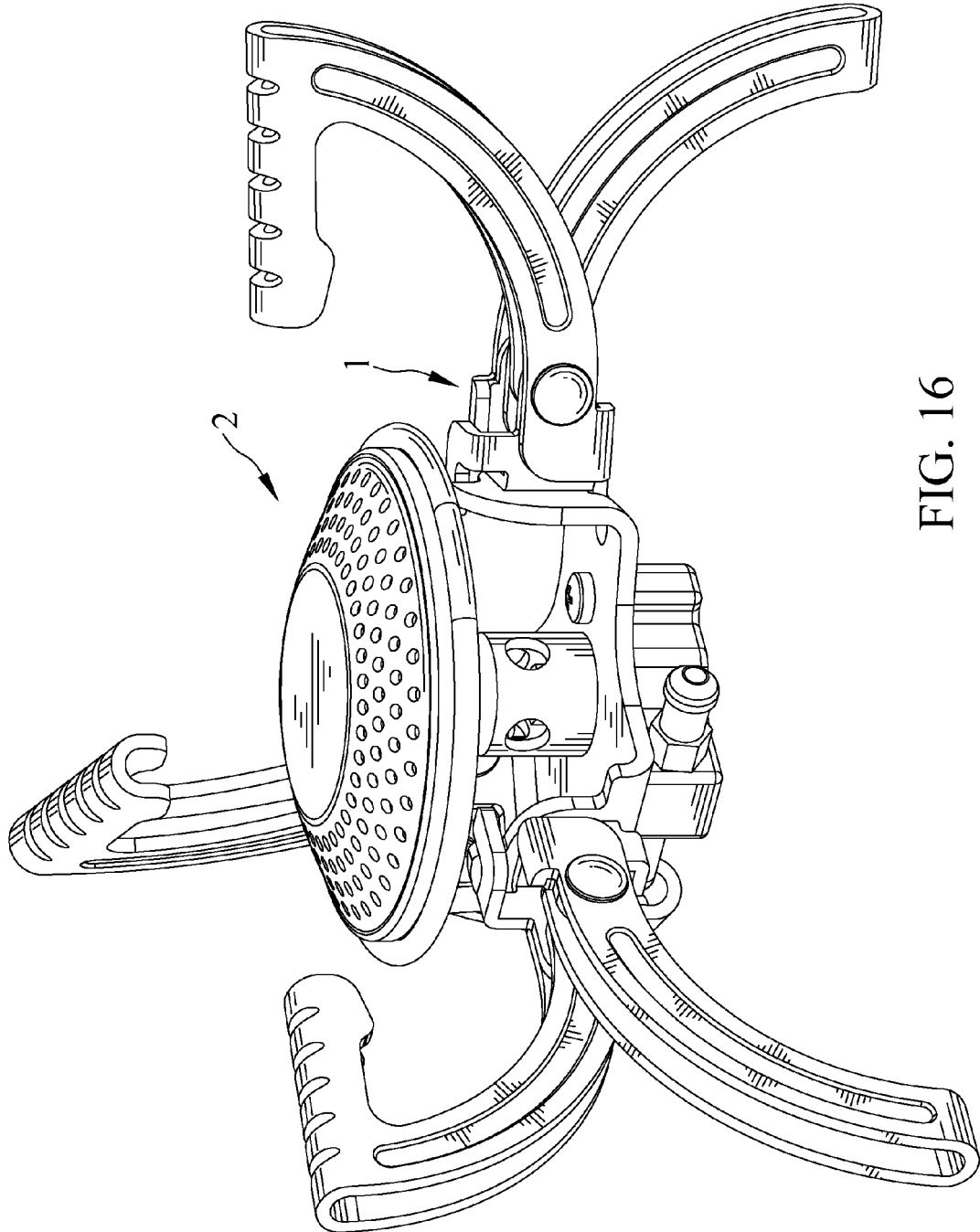


FIG. 16



EUROPEAN SEARCH REPORT

 Application Number
 EP 13 17 2433

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	Fire-maple.com: "FMS-100 stove", 31 December 2010 (2010-12-31), XP002721405, Retrieved from the Internet: URL:http://www.fire-maple.com/en/productsinfo.aspx?pid=16 [retrieved on 2014-03-10] * the whole document *	1-10	INV. F24C3/14
A	WO 2008/019273 A2 (COLEMAN CO [US]; LONG NORRIS RICHARD [US]) 14 February 2008 (2008-02-14) * figures 1,3C *	1-10	
A	GB 2 362 947 A (APPLIC GAZ SA [FR]) 5 December 2001 (2001-12-05) * figures 1,2 *	1-10	
A	US 6 505 620 B1 (GOTO HAJIME [JP]) 14 January 2003 (2003-01-14) * figures 2-3 *	1-10	TECHNICAL FIELDS SEARCHED (IPC)
A	US 5 884 553 A (MORRIS JAMES O [US]) 23 March 1999 (1999-03-23) * figure 4 *	1-10	F16M F24C A47J
A	JP 2011 185540 A (SHINFUJI BURNER KK) 22 September 2011 (2011-09-22) * figures 1,6 *	1-10	
A	JP 2008 057915 A (SNOW PEAK INC) 13 March 2008 (2008-03-13) * figure 1 *	1-10	
A	US 2012/145878 A1 (ZOLL BRIAN MICHAEL [US]) 14 June 2012 (2012-06-14) * figures 1-10 *	1-10	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 10 March 2014	Examiner Adant, Vincent
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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10-03-2014

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2008019273	A2	14-02-2008	AU 2007281757 A1	14-02-2008
			CA 2660205 A1	14-02-2008
			EP 2049837 A2	22-04-2009
			JP 2009545722 A	24-12-2009
			US 2009280447 A1	12-11-2009
			WO 2008019273 A2	14-02-2008

GB 2362947	A	05-12-2001	DE 10126389 A1	28-11-2002
			FR 2809479 A1	30-11-2001
			GB 2362947 A	05-12-2001
			IT T020010485 A1	25-11-2002
			JP 2002005446 A	09-01-2002

US 6505620	B1	14-01-2003	JP 4300438 B2	22-07-2009
			JP 2000240945 A	08-09-2000
			US 6505620 B1	14-01-2003

US 5884553	A	23-03-1999	NONE	

JP 2011185540	A	22-09-2011	NONE	

JP 2008057915	A	13-03-2008	JP 4919739 B2	18-04-2012
			JP 2008057915 A	13-03-2008

US 2012145878	A1	14-06-2012	NONE	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 6742514 B [0003]
- US 7168426 B [0004]
- US 5992407 A [0005]