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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates generally to sporting goods, and more particularly, to a two-piece skateboard.

2. Description of the Related Art

[0002] A conventional skateboard as disclosed in PCT Publication No. WO/2007/127554 is usually moved forward by wriggling a user's body repeatedly. The skateboard is composed of a one-piece flexible skateboard platform and a pair of wheel assemblies. The skateboard platform includes a pair of wider foot support areas and a narrower central area. The wheel assemblies each are mounted to the bottom side of one of the two foot support areas. When the user pressurizes two foot support areas eccentrically to enable them to incline toward opposite directions, the central area is twisted/deformed on the twist axis of the skateboard platform. In the meantime, potential energy is generated because the gravity centers of the two foot support areas are heightened, and then the potential energy is converted into forward momentum while the two support areas reconstitute their shapes. Therefore, the user only needs to repeatedly twist the skateboard platform for moving the skateboard forward without kicking the ground.

[0003] The aforesaid conventional skateboard is provided with the forward momentum only when the skateboard is twisted/deformed on the twist axis. However, the central area of the skateboard platform can be relatively twisted toward either random direction, such that the skateboard is subject to failure of forward movement because the user applies a force toward an incorrect direction or to an incorrect position; even the user may fall from the skateboard due to the unsteady center of gravity. Accordingly, it is very difficult to maneuver the skateboard and it takes much time to maneuver the skateboard well.

SUMMARY OF THE INVENTION

[0004] The primary objective of the present invention is to provide a two-piece skateboard, which can be twisted by the user's pressurization only on a particular axis for easier maneuverability.

[0005] The secondary objective of the present invention is to provide a two-piece skateboard, which is user-friendly for the novice.

[0006] The foregoing objectives of the present invention are attained by the two-piece skateboard composed of a front foot support member, a front wheel assembly, a rear foot support member, a rear wheel assembly, and a rigid bar. The front wheel assembly is mounted to a bottom side of the front foot support member. The rear

foot support member is flexible, having a foot support portion and an extension part. The rear wheel assembly is mounted to a bottom side of the rear foot support member. The rigid bar has a front end and a rear end, wherein the former is mounted to the front foot support member and the latter is mounted to the rear foot support member.

[0007] A fastening piece is mounted to the rear foot support member. The fastening piece and the rear foot support member jointly constitute a rear connection hole having a small-diameter portion and a large-diameter portion. The small-diameter portion is located at a front side of the large-diameter portion, communicating with the large-diameter portion and the outside. The rigid bar includes a large-diameter part and a small-diameter part located at a front side of the large-diameter part. The large-diameter and small-diameter parts are received in the large-diameter and small-diameter portions respectively. The front foot support member includes a noncircular front connection hole formed at a rear side for inserting a front end of the rigid bar therein. The front foot support member includes two coupling walls, each of which has a through hole. A support strut is mounted to the rigid bar. Two support wheel sets are mounted to two sides of the support strut respectively. A lower part is mounted below the support strut. The support strut has a recessed portion. The support strut and the lower part jointly constitute a bar hole for the extension part of the rear foot support member to pass through. The rear foot support member includes an elongated opening running through top and bottom sides thereof. A gap is formed between the extension part and the front foot support member. The front foot support member further includes a front cover located at a top side thereof. The rear foot support member further includes a rear cover located at a top side thereof.

[0008] The extension part of the rear foot support member is mounted to the rigid bar. The rear foot support member includes a sleeve sleeved onto the rigid bar. The cross-section of the rigid bar is noncircular, corresponding to the sleeve in shape. The rear foot support member further includes a rear connection bar mounted to a bottom side of the foot support portion and connected with the rigid bar. The rigid bar is connected with the rear foot support member by a rotary shaft. Each of the rigid bar and the rear foot support member includes an axial hole for inserting one of two ends of the rotary shaft therein. The rotary shaft includes an annular rib stopped against the rigid bar and the rear foot support member. The rear foot support member is more flexible than the extension part.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

FIG. 1 is a perspective view of a first preferred embodiment of the present invention.

FIG. 2 is an exploded view of the first preferred em-

bodiment of the present invention.

FIG. 3 is a perspective bottom view of the first preferred embodiment of the present invention.

FIG. 4 is a sectional view taken along a line 4-4 indicated in FIG. 1.

FIG. 5 is a sectional view of a part of the first preferred embodiment of the present invention.

FIG. 6 is a perspective view of a second preferred embodiment of the present invention.

FIG. 7 is a perspective bottom view of the second preferred embodiment of the present invention.

FIG. 8 is an exploded view of the second preferred embodiment of the present invention.

FIG. 9 is a sectional view taken along a line 9-9 indicated in FIG. 7.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0010] Referring to FIGS. 1-3, a two-piece skateboard 10 constructed according to a first preferred embodiment of the present invention is composed of a front foot support member 20, a front wheel assembly 22, a rear foot support member 24, and a rear wheel assembly 26, a rigid bar 28, a fastening piece 30, a support strut 34, and two support wheel sets 36.

[0011] The front foot support member 20 includes a front cover 201, a rectangular front connection hole 203, and two coupling walls 205. The front cover 201 is located at a top side of the front foot support member 20, having a rugged top surface for anti-skid purpose. The front connection hole 203 is formed at a rear side of the front foot support member 20. The two coupling walls 205 are located at a bottom side of the front foot support member 20, each having a through hole 207 running through a front side thereof and a rear side thereof.

[0012] The front wheel assembly 22 includes a front fork 221 pivotably mounted to a bottom side of the front foot support member 20; and a caster 223 mounted to the front fork 221.

[0013] The rear foot support member 24 is flexible and includes a foot support portion 241 and an extension part 243. The extension part 243 is formed at a front side of the foot support portion 241, having two lugs 244 and an elongated opening 246. The two lugs 244 horizontally extend from a front side of the extension part 243 and are detachably inserted through the through holes 207 respectively. The elongated opening 245 runs through a top side and a bottom side of the extension part 243. Besides, the extension part 243 is narrower than the foot support portion 241, such that the extension part 243 is more flexible than the foot support portion 241. The rear foot support member 24 includes a rear cover 248, whose top surface is rugged as well.

[0014] The rear wheel assembly 26 includes a rear fork 261 pivotably mounted to a bottom side of the rear foot support member 24; and a caster 263 mounted to the rear fork 261.

[0015] The rigid bar 28 includes a front end 281 inserted into the front connection hole 203 and fixed to the front foot support member 20 by bolts 283, as shown in FIG. 4. The rigid bar 28 includes a small-diameter part 285 and a large-diameter part 287 at a rear end thereof, as shown in FIG. 2 and 5. The cross-section of each of the small-diameter and large-diameter parts 285 and 287 is circular. The small-diameter part 285 is located at a front side of the large-diameter part 287.

[0016] The fastening piece 30 is mounted to the foot support portion 241. The fastening piece 30 and the foot support portion 241 jointly constitute a rear connection hole 32, as shown in FIG. 5. The rear connection hole 32 includes a small-diameter portion 321 and a large-diameter portion 323. The cross-section of each of the small-diameter and large-diameter portions 321 and 323 is circular. The small-diameter portion 321 is located at a front side of the large-diameter portion 323, communicating with the large-diameter portion 323 and the outside. The small-diameter and large-diameter portions 321 and 323 are provided for receiving the small-diameter and large-diameter parts 285 and 287 respectively. In this way, the rigid bar 28 is rotatable in place with respect to the rear foot support member 24.

[0017] The support strut 34 is mounted to a bottom side of the rigid bar 28.

[0018] Each of the two support wheel sets 36 includes a fork member 361 and a caster 363. The two fork members 361 are pivotably mounted to a left side and a right side of the support strut 34. The caster 363 is mounted to the fork member 361.

[0019] In light of the above structure, when the user eccentrically pressurizes the front foot support member 20 and the foot support portion 243 by two feet, the front foot support member 20 and the foot support portion 243 incline toward opposite directions and the extension part 243 is twisted, such that the potential energy of the front foot support member 20 and the foot support portion 243 is enhanced because their centers of gravity are heightened. Next, when the user stops the pressurization, the rear foot support member 24 restitutes the original shape due to its flexibility. In the meantime, the enhanced potential energy of the front and rear foot support members 20 and 24 is converted into forward momentum. In this way, the user can repeatedly twist the skateboard 10 to move it forward.

[0020] Because the rigid bar 28 has rigidity to a certain extent, the rigid bar 28 is not subject to twist or curvature while the user normally applies a force to the skateboard 10. In this way, the manner that the rear foot support member 24 is twisted is limited and the rear foot support member 24 can be twisted only on the rigid bar 28, such that the manner of deformation of the two-piece skateboard 10 is simplified to decrease the difficulty of its maneuverability.

[0021] In addition, the support strut 34 and the two support wheel sets 36 can provide additional support for the user to prevent the user from accidentally falling due to

the unsteady center of gravity, thus enabling the user to more easily maneuver the skateboard 10 well. When the user is familiar with steering the skateboard 10, the user can optionally remove the support strut 34 and the two support wheel sets 36 to enhance the dexterity in maneuvering the skateboard 10.

[0022] Referring to FIGS. 6-8, a two-piece skateboard 40 constructed according to a second preferred embodiment of the present invention is similar to that of the first embodiment, having a front foot support member 50, a front wheel assembly 52, a rear foot support member 54, and a rear wheel assembly 56, a rigid bar 58, a support strut 60, and two support wheel sets 62. The second embodiment is different from the first embodiment as recited thereafter. The rear foot support member 54 includes a rear linking bar 545 mounted to a bottom side of the foot support portion 541. The rear linking bar 545 and the rear wheel assembly 56 are mounted to the foot support portion 541 by a link 546. The rigid bar 58 is connected with the rear linking bar 545 by a rotary shaft 66. Each of the rigid bar 58 and the rear linking bar 545 includes an axial hole 581(548) for inserting two ends of the rotary shaft 66. The rotary shaft 66 includes an annular rib 661 stopped against the rigid bar 58 and the rear linking bar 545. Besides, the front wheel assembly 52 and a front end of the rigid bar 58 are mounted to a bottom side of the front foot support member 50 by a link 501. The extension part 543 of the rear foot support member 54 is provided with a sleeve 544 formed at a front end thereof and sleeved onto the rigid bar 58. The cross-section of the rigid bar 58 is rectangular, corresponding to the sleeve 544 (FIG. 9) in shape. A gap is formed 51 between the extension part 543 and the front foot support member 50. The two-piece skateboard 50 further includes a lower part 64 located below the support strut 60. The support strut 60 is provided with a recessed portion 601. The support strut 60 and the lower part 64 jointly constitute a bar hole 641 for the extension part 543 and the rigid bar 58 to pass through.

[0023] Although the present invention has been described with respect to specific preferred embodiments thereof, it is no way limited to the details of the illustrated structures but changes and modifications may be made within the scope of the appended claims.

Claims

1. A two-piece skateboard (10) comprising:

a front foot support member (20);
a front wheel assembly (22) mounted to a bottom side of the front foot support member (20);
a rear foot support member (24); and
a rear wheel assembly (26) mounted to a bottom side of the rear foot support member (24);

wherein the two-piece skateboard (10) is **character-**

ized in that the rear foot support member (24) is flexible and has a foot support portion (241) and an extension part (243); the two-piece skateboard (10) further comprises a rigid bar (28), the rigid bar (28) having a front end (281) mounted to the front foot support member (20) and a rear end (285, 287) connected with the rear foot support member (24).

2. The two-piece skateboard (10) as defined in claim 1 being **characterized in that** the two-piece skateboard (10) further comprises a fastening piece (30) mounted to the rear foot support member (24), wherein the fastening piece (30) and the rear foot support member (24) jointly constitute a rear connection hole (32), the rear connection hole (32) having a small-diameter portion (321) and a large-diameter portion (323), the small-diameter portion (321) being located at a front side of the large-diameter portion (323) and communicating with the large-diameter portion (323) and an outside; the rear end of the rigid bar is formed of a small-diameter part (285) and a large-diameter part (287), the small-diameter part (285) being located at a front side of the large-diameter part (287), the small-diameter and large-diameter parts (285, 287) being inserted into the small-diameter and large-diameter portions (321, 323) respectively.

3. The two-piece skateboard (10) as defined in claim 1 being **characterized in that** the rear foot support member (20) comprises a noncircular front connection hole (203) formed at a rear side thereof for inserting the front end (281) of the rigid bar (28).

4. The two-piece skateboard (40) as defined in claim 1 being **characterized in that** there is a gap (51) formed between the extension part (543) of the rear foot support member (54) and the front foot support member (50).

5. The two-piece skateboard (10) as defined in claim 1 being **characterized in that** the front foot support member (20) comprises two coupling walls (205) each having a through hole (207); the extension part (243) rear foot support member (24) comprises two lugs (244) formed at a front side thereof and detachably inserted through the through holes respectively.

6. The two-piece skateboard (10) as defined in claim 1 being **characterized in that** the two-piece skateboard (10) further comprises a support strut (34) mounted to the rigid bar (28), and two support wheel sets (36) mounted to two sides of the support strut (34).

7. The two-piece skateboard (40) as defined in claim 6 being **characterized in that** the two-piece skateboard (40) further comprises a lower part (64) locat-

ed below the support strut (60), wherein the support strut (60) having a recessed portion (601), the support strut (60) and the lower part (64) jointly constitute a bar hole (641) for the extension part (543) to pass through.

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8. The two-piece skateboard (10) as defined in claim 1 being **characterized in that** the extension part (243) comprises an elongated opening (245) running through a top side thereof and a bottom side thereof. 10
9. The two-piece skateboard (10) as defined in claim 1 being **characterized in that** the front foot support member (20) comprises a front cover (201) formed at a top side thereof; the rear foot support member (24) comprises a rear cover (248) formed at a top side thereof. 15
10. The two-piece skateboard (40) as defined in claim 1 being **characterized in that** the extension part (543) is mounted to the rigid bar (58). 20
11. The two-piece skateboard (40) as defined in claim 10 being **characterized in that** the rear foot support member (54) comprises a sleeve (547) formed at a front end thereof and sleeved onto the rigid bar (58), the rigid bar (58) having a noncircular cross-section corresponding to the sleeve (547) in shape. 25
12. The two-piece skateboard (40) as defined in claim 1 being **characterized in that** the rear foot support member (54) further comprises a rear linking bar (545) mounted to a bottom side of the foot support portion (541) and connected with the rigid bar (58). 30
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13. The two-piece skateboard (40) as defined in claim 1 being **characterized in that** the rigid bar (58) is connected with the rear foot support member (54) by a rotary shaft (66), each of the rigid bar (58) and the rear foot support member (54) having an axial hole (581, 548) for inserting one of two ends of the rotary shaft (66). 40
14. The two-piece skateboard (40) as defined in claim 13 being **characterized in that** the rotary shaft (66) comprises an annular rib (661) stopped against the rigid bar (58) and the rear foot support member (54). 45
15. The two-piece skateboard (40) as defined in claim 1 being **characterized in that** the extension part (543) is more flexible than the foot support portion (541). 50

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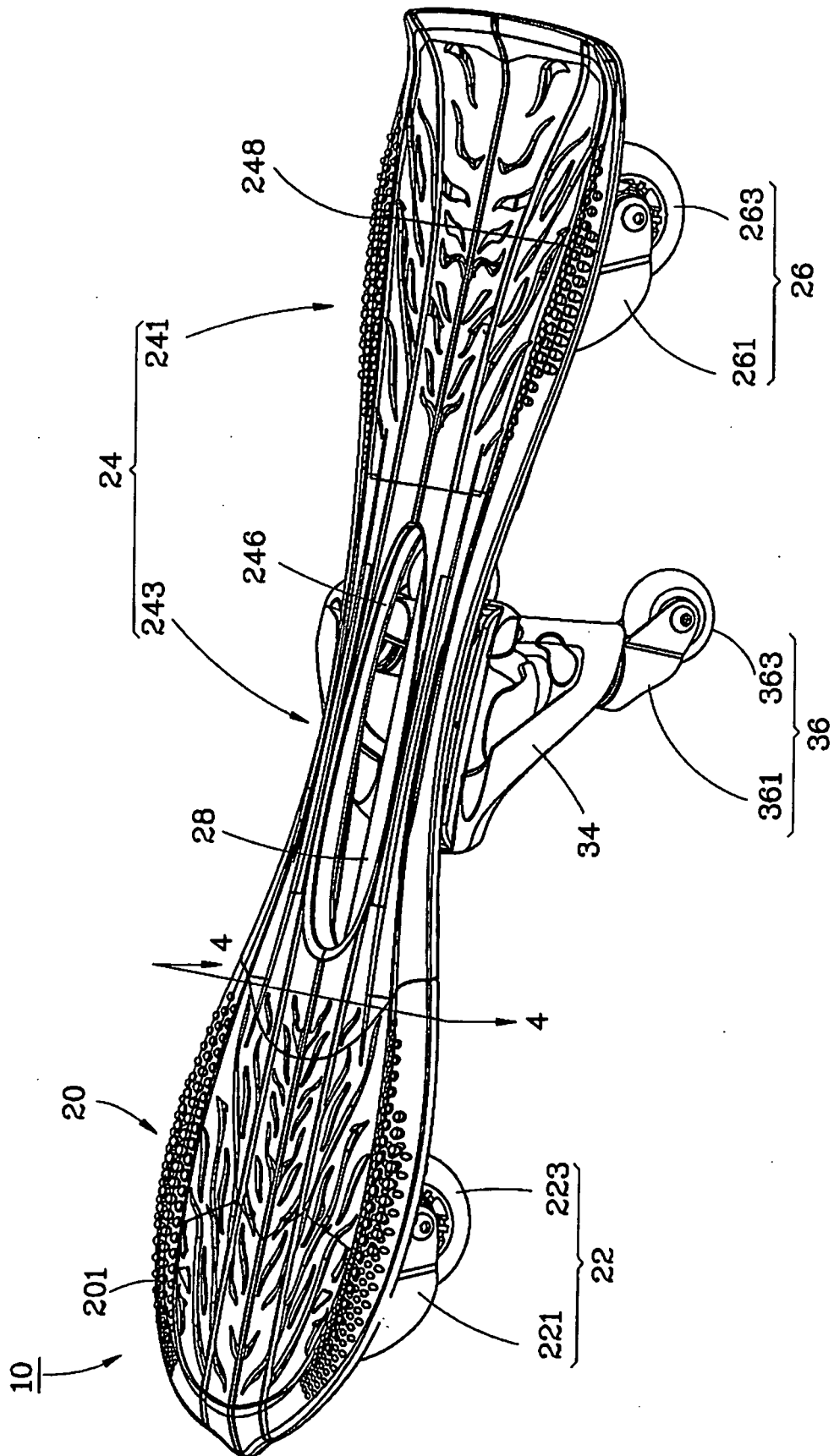


FIG. 1

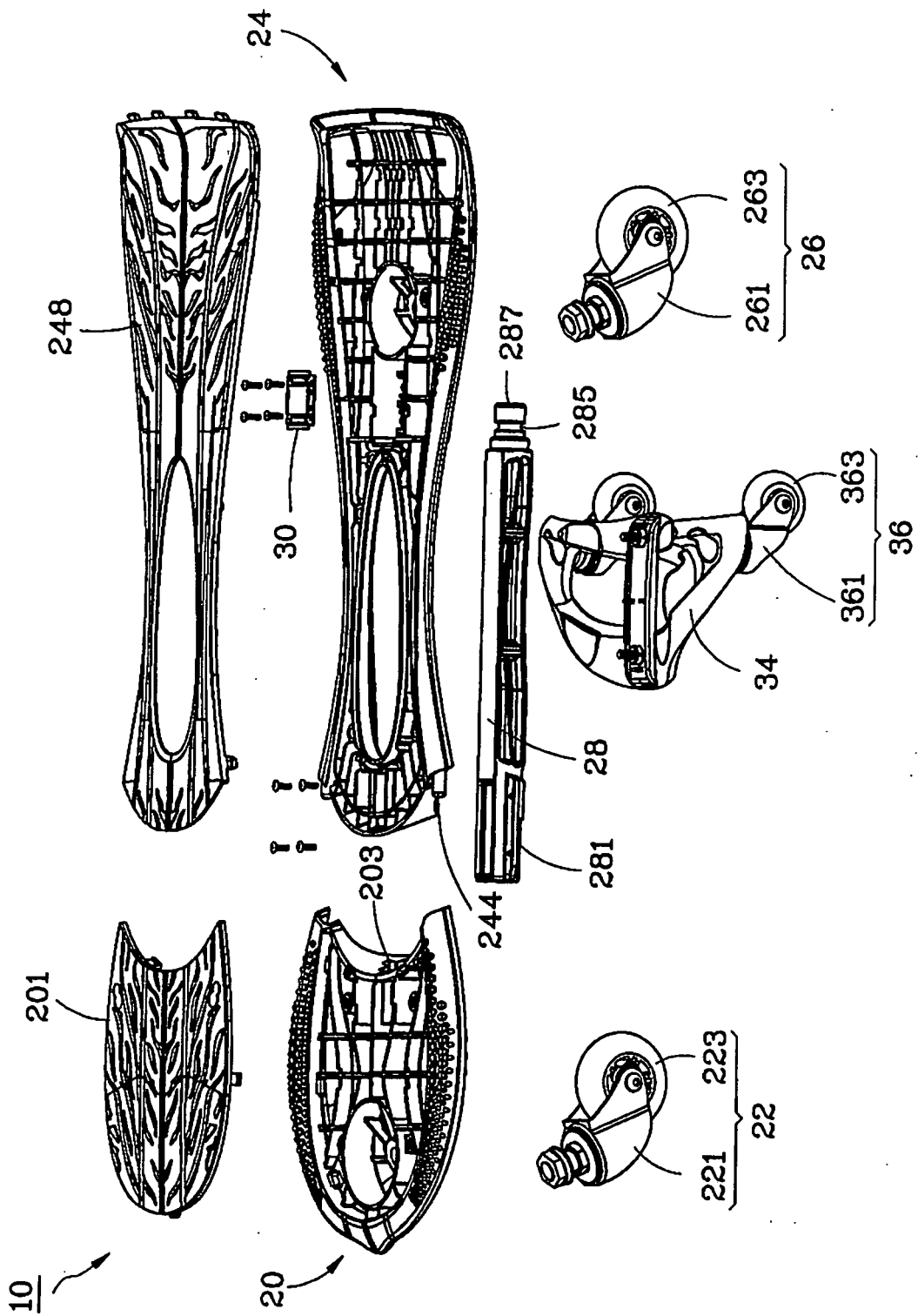


FIG. 2

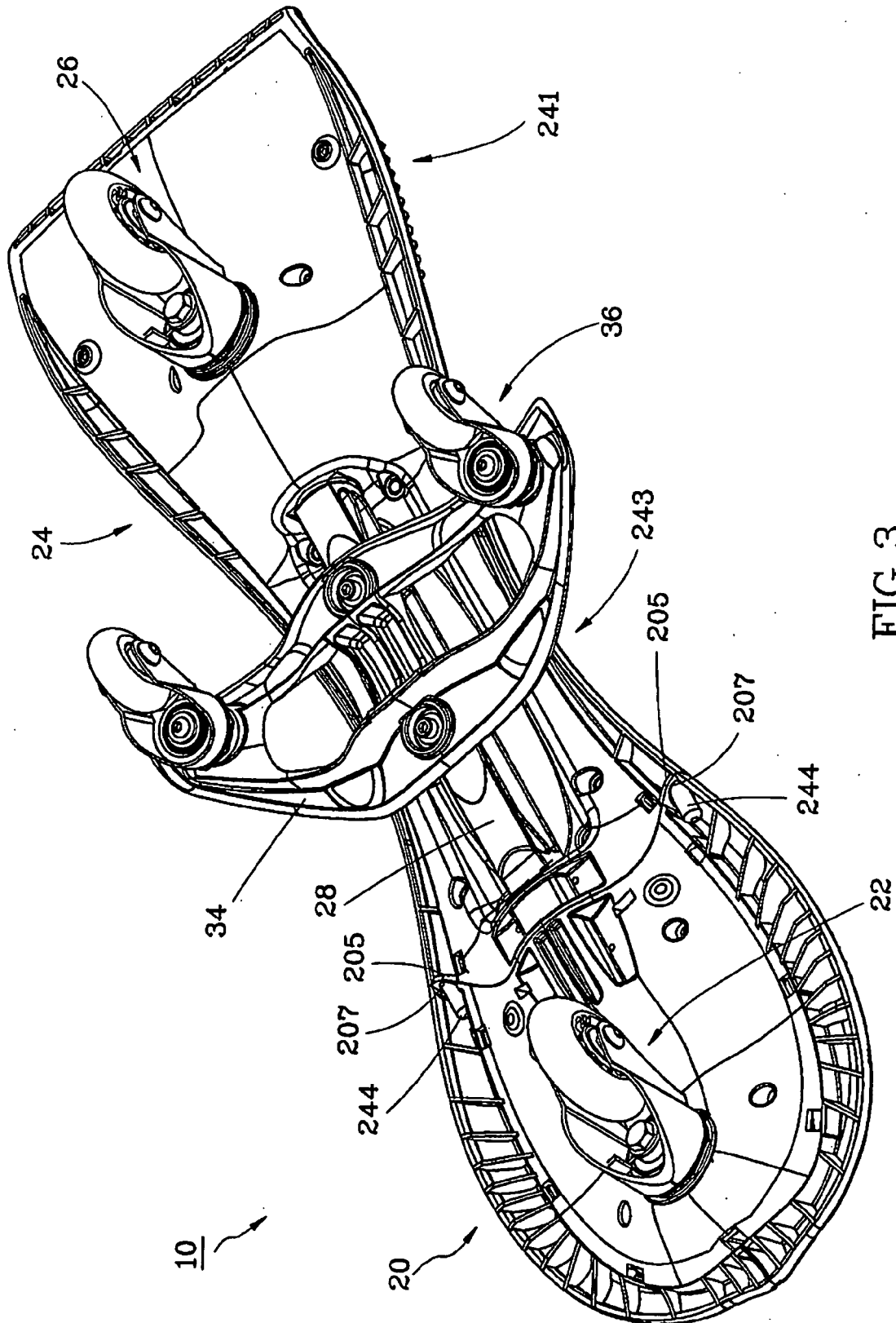


FIG. 3

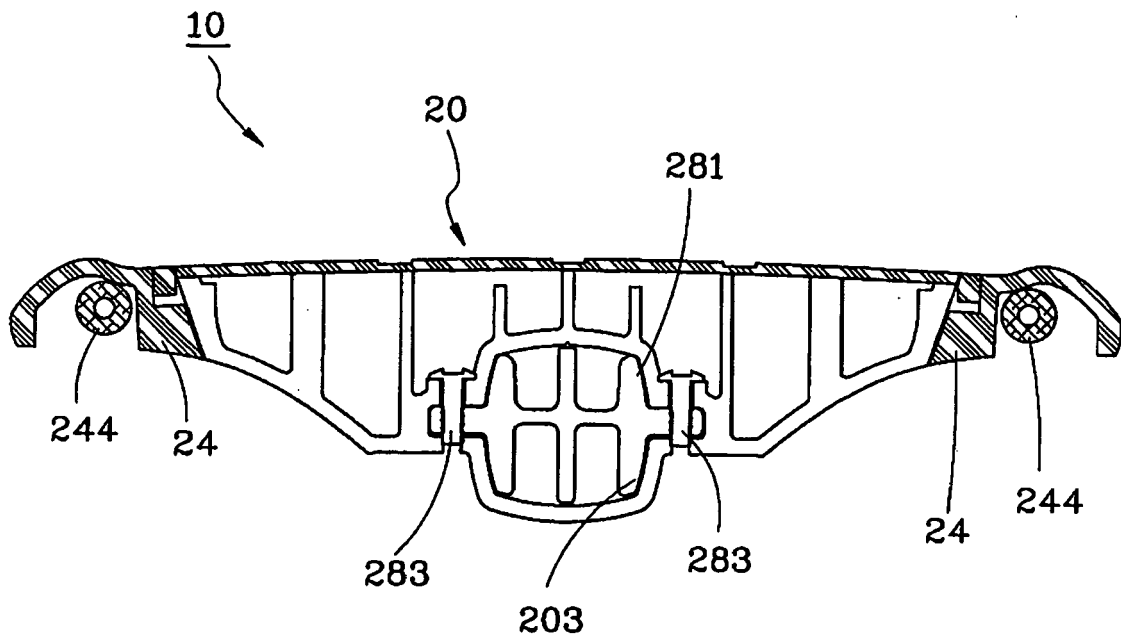


FIG. 4

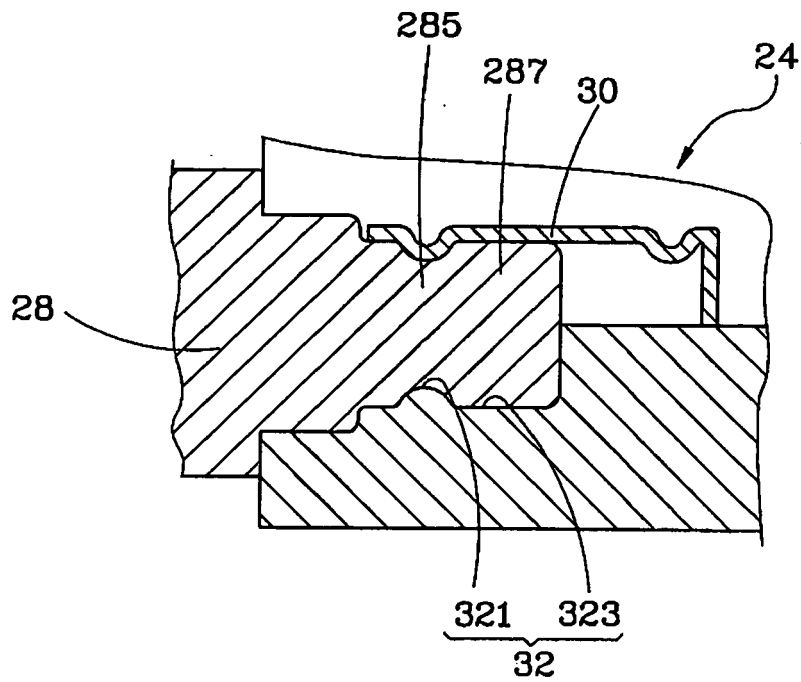


FIG. 5

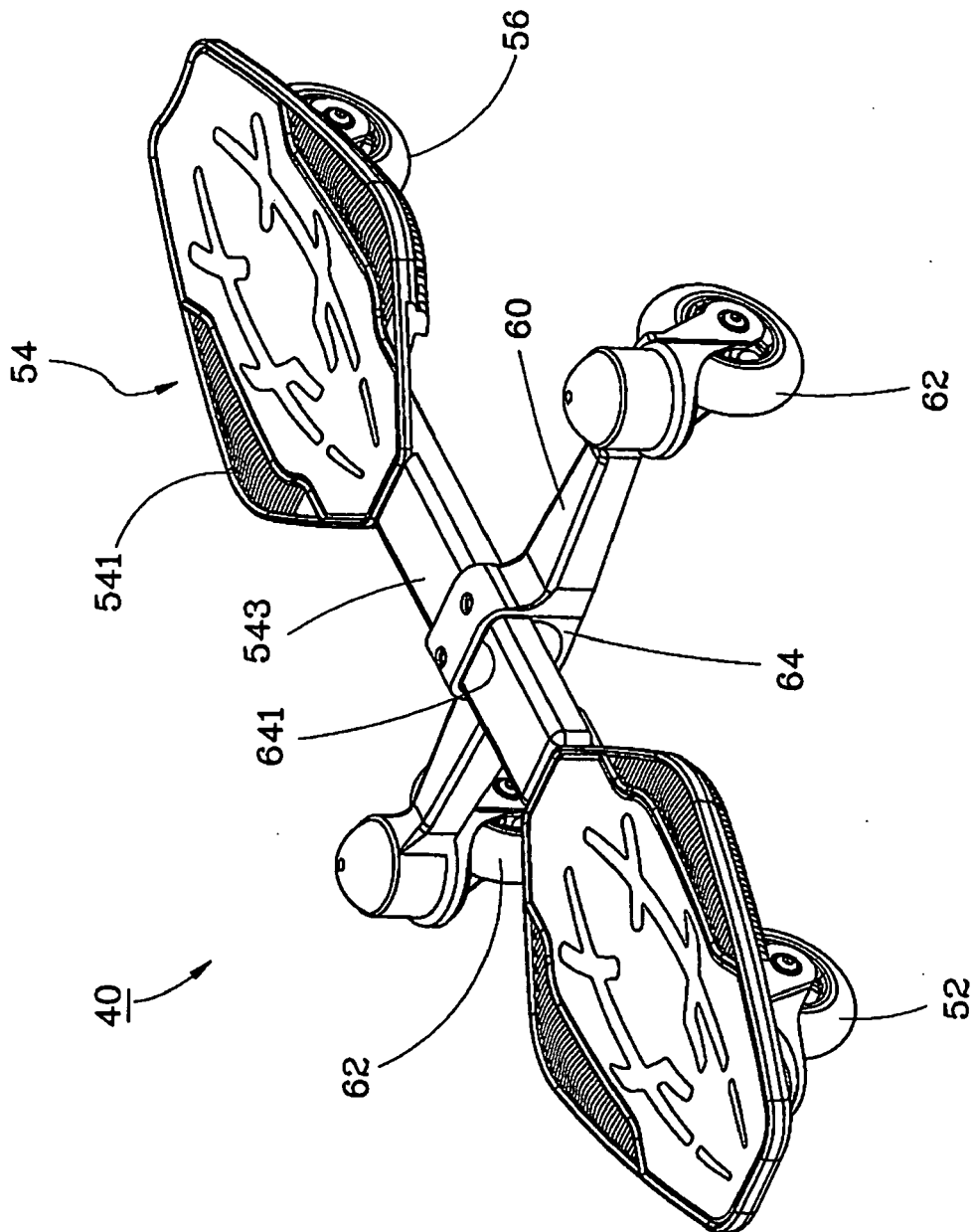


FIG. 6

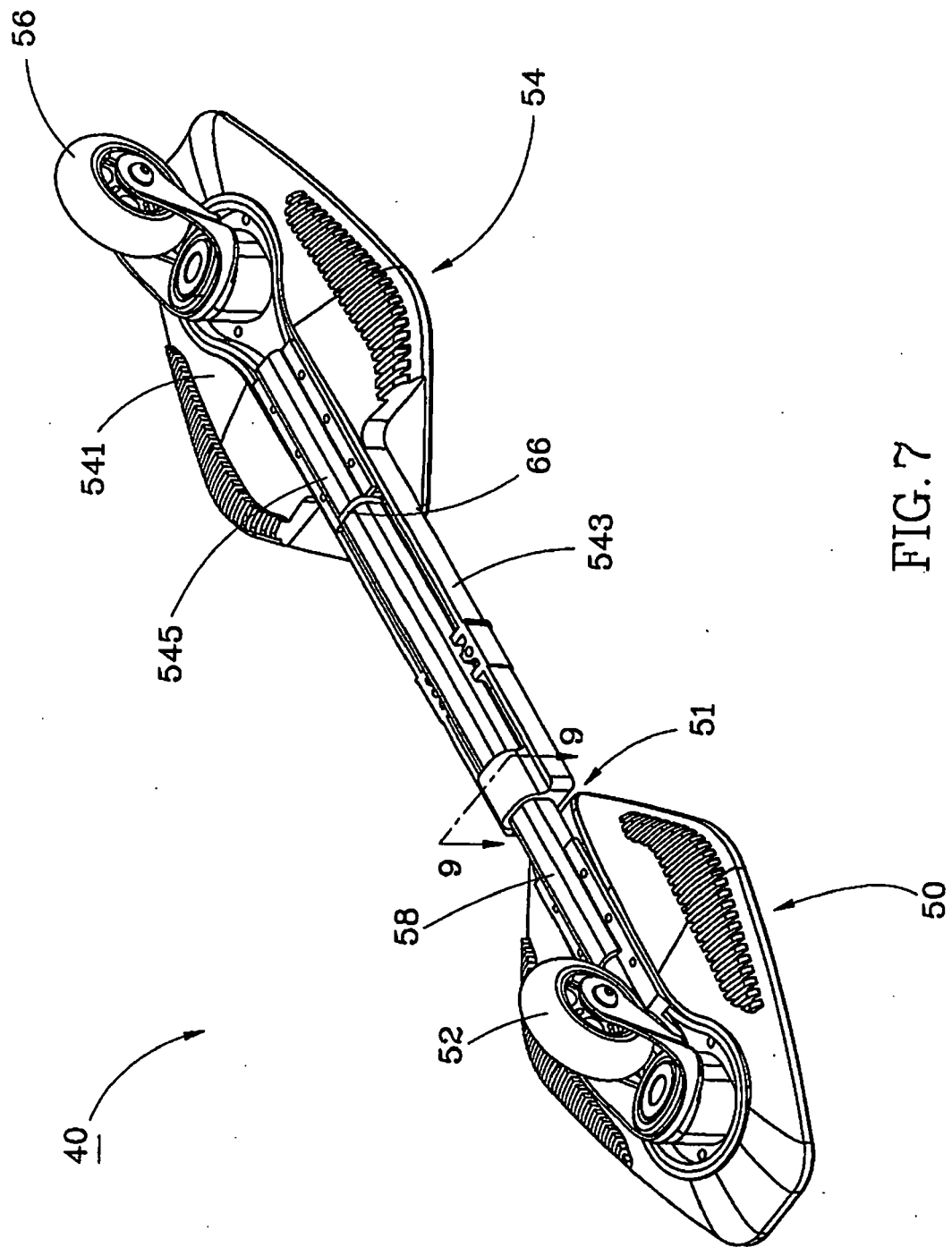


FIG. 7

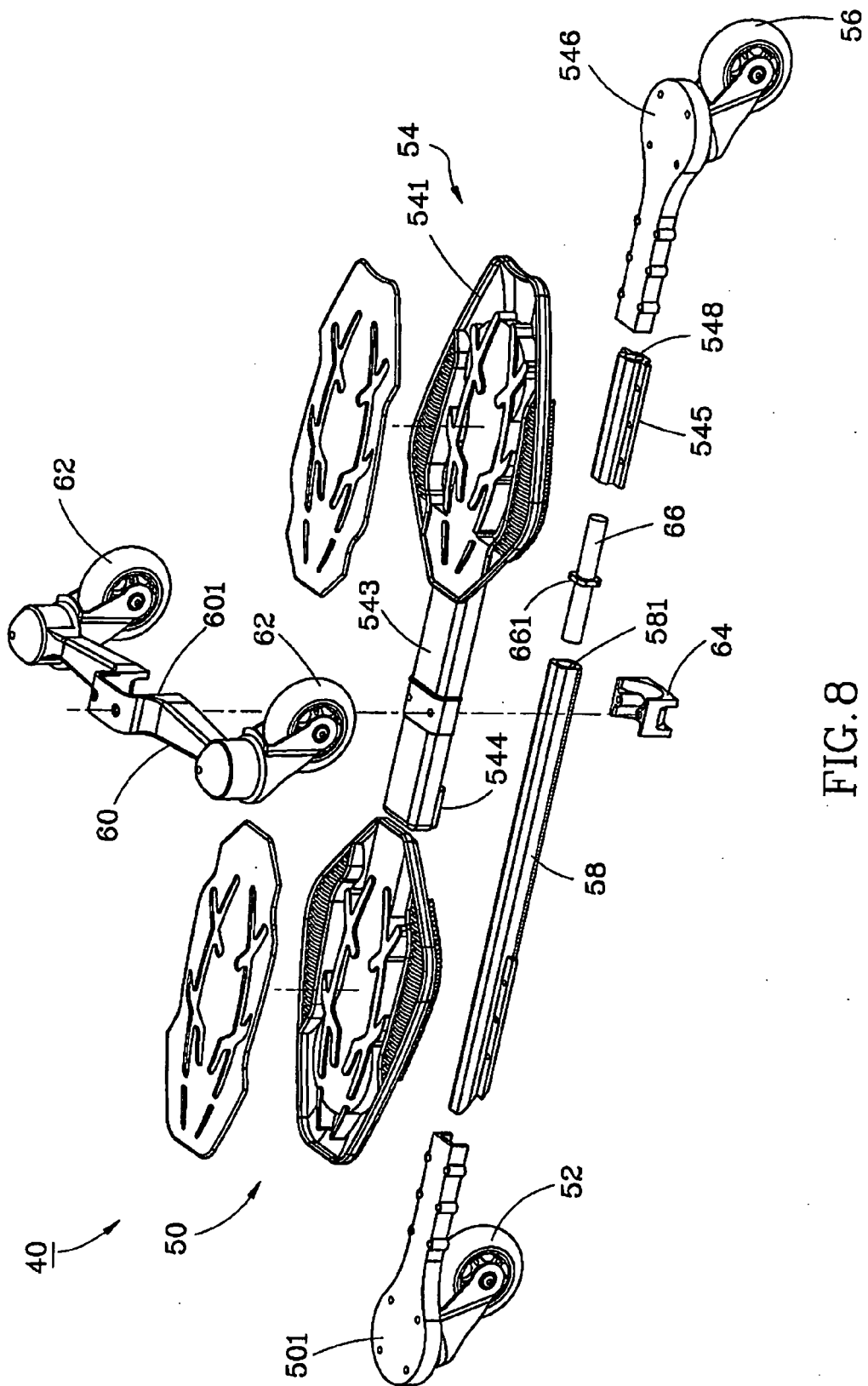


FIG. 8

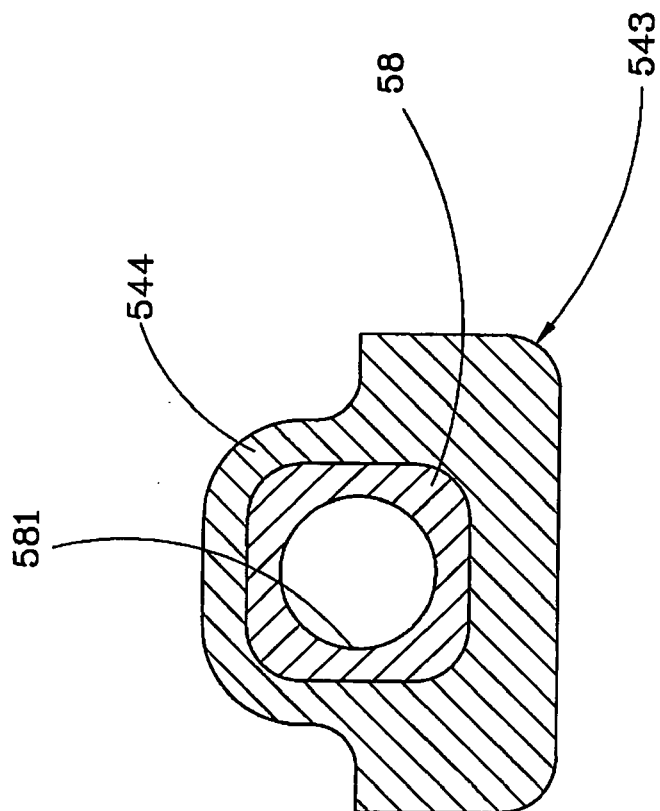


FIG. 9



EUROPEAN SEARCH REPORT

Application Number
EP 09 00 2874

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 679 101 A1 (FRANKLIN & GROEP B V [NL]) 12 July 2006 (2006-07-12)	1,3-4,10	INV. A63C17/04
Y	* claim 13 *	5,9	
A	* paragraph [0017] - paragraph [0034]; figures 1-4 *	2,6-8, 11-12, 14-15	
X	US 2006/055137 A1 (JIANG XIANCAN [CN]) 16 March 2006 (2006-03-16)	1,3-4,10	
Y	* paragraph [0007] *	5,9	
A	* paragraph [0018] - paragraph [0020]; figures 1,2 *	2,6-8, 11-12	
Y	US 2007/114743 A1 (CHEN SHANE [US]) 24 May 2007 (2007-05-24)	5	
	* paragraph [0030] - paragraph [0032]; figure 4 *		
Y	WO 2007/111466 A1 (DOOBALTECH CO LTD [KR]; YU SUK YEON [KR]) 4 October 2007 (2007-10-04)	9	
	* paragraph [0024] - paragraph [0025]; figures 1,2 *		TECHNICAL FIELDS SEARCHED (IPC)
Y	WO 2007/117125 A1 (TRISPORTS CO LTD [KR]; JANG BYUNG SOO [KR]; JANG BYONG TAEK [KR]) 18 October 2007 (2007-10-18)	9	A63C
	* page 18, line 24 - page 19, line 10; figure 2 *		
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	* claim 1; figures 1-3 *		
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 19 October 2009	Examiner Murer, Michael
CATEGORY OF CITED DOCUMENTS		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	
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			

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EPO FORM 1503 03.82 (P04C01)

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

EP 09 00 2874

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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19-10-2009

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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