Innovation, Sciences et Développement économique Canada
Office de la Propriété Intellectuelle du Canada

Innovation, Science and Economic Development Canada
Canadian Intellectual Property Office

CA 2664142 C 2018/05/29

(11)(21) 2 664 142

(12) BREVET CANADIEN
CANADIAN PATENT

(13) C

(86) Date de dépôt PCT/PCT Filing Date: 2007/09/21
(87) Date publication PCT/PCT Publication Date: 2008/04/02
(45) Date de délivrance/Issue Date: 2018/05/29
(85) Entrée phase nationale/National Entry: 2009/03/20
(86) N° demande PCT/PCT Application No.: US 2007/020439
(87) N° publication PCT/PCT Publication No.: 2009/041933

(51) Cl.Int./Int.Cl. *B62M 1/12* (2006.01), *B62K 17/00* (2006.01)

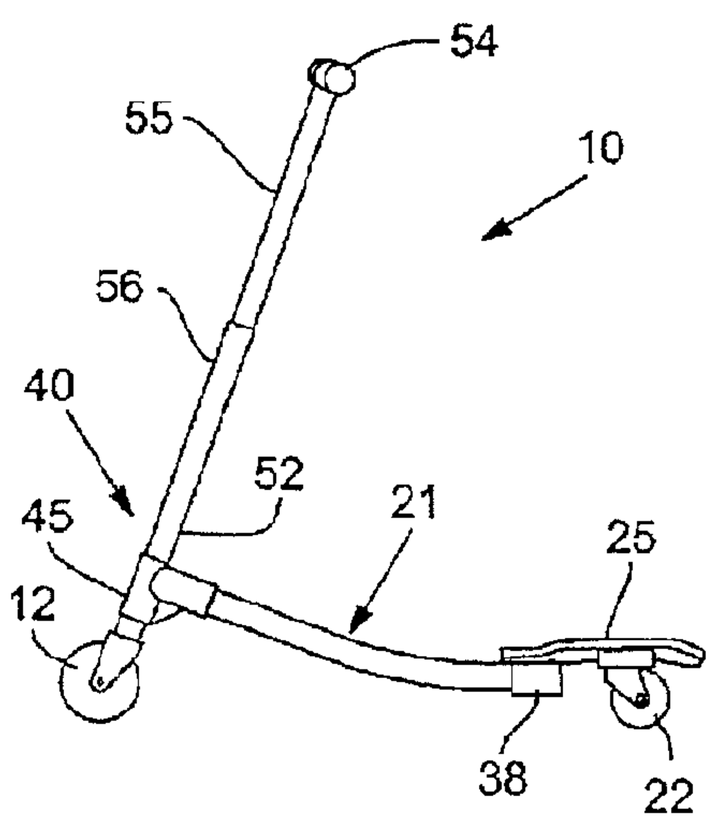
(72) Inventeur/Inventor:
CHEN, SHANE, US

(73) Propriétaire/Owner:
CHEN, SHANE, US

(74) Agent: ADE & COMPANY INC.

(54) Titre : DISPOSITIF DE TROTTINETTE PROPULSE PAR UN MOUVEMENT LATERAL AYANT UNE PLATE-FORME EXTENSIBLE POUR LES PIEDS

(54) Title: SIDE MOVEMENT PROPELLED SCOOTER DEVICE HAVING EXPANDED FOOT PLATFORM



(57) Abrégé/Abstract:
A scooter device propelled by side to side movement of a user that includes a frame structure through which at least a front wheel is coupled to two direction biased rear wheels. The frame structure may have a foot placement platform that extends laterally between the two rear wheels. The platform may extend over half of the distance between the rear wheels and/or be substantially continuous for that distance. Various platform embodiments and frame structures, including rigid and flexible, are disclosed, among other aspects.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
2 April 2009 (02.04.2009)

PCT

(10) International Publication Number
WO 2009/041933 A2

(51) International Patent Classification:
B62M 1/12 (2006.01)

(21) International Application Number:
PCT/US2007/020439

(22) International Filing Date:
21 September 2007 (21.09.2007)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: **RAZOR USA, LLC** [US/US]; 16200a Carmenita Road, Cerritos, CA 90703 (US).

(72) Inventor: **SHANE, Chen**; 1821 Nw Eight Avenue, Camas, WA 98607 (US).

(74) Agent: **ADAMSON, Steven, J.**; P.o. Box 5997, Portland, OR 97228 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

WO 2009/041933 A2

(54) Title: SIDE MOVEMENT PROPELLED SCOOTER DEVICE HAVING EXPANDED FOOT PLATFORM

(57) Abstract: A scooter device propelled by side to side movement of a user that includes a frame structure through which at least a front wheel is coupled to two direction biased rear wheels. The frame structure may have a foot placement platform that extends laterally between the two rear wheels. The platform may extend over half of the distance between the rear wheels and/or be substantially continuous for that distance. Various platform embodiments and frame structures, including rigid and flexible, are disclosed, among other aspects.

SIDE MOVEMENT PROPELLED SCOOTER DEVICE HAVING EXPANDED FOOT PLATFORM

Inventor(s): Shane Chen

FIELD OF THE INVENTION

The present invention relates to scooters and, more specifically, to those having three or more wheels and which may be propelled by sideways movement of the user.

BACKGROUND OF THE INVENTION

Various self-propelled and motorized scooters are known in the art. These include two wheeled, three wheeled and other multi-wheeled embodiments.

Known three wheeled scooter embodiments include those disclosed in: U.S. Patent no. 4,540,192, issued to Shelton for a Three-Wheeled Scooter-Type Vehicle ('192 patent); U.S. Patent no. 5,039,121, issued to Holter for a Tri-Skater ('121 patent); U.S. Patent no. 6,908,090, issued to Chuang for a Cambering Vehicle Having Inclined Pivot Axle ('090 patent); and U.S. Patent no. 6,976,687 for a Cambering Vehicle and Mechanism ('687 patent).

The '192 patent discloses a scooter having two rear wheel frame members, each with a narrow foot placement area, that can be moved between a first adjacent position and a second spaced position. The two rear wheels are each mounted with a spring that biases them in the line of direction of their respective frame members. The bias arrangement also allows movement of the wheels out of this line of direction, while returning them in the absence of

a displacement force. This arrangement permits forward movement of the scooter when the user shifts his or her weight from side to side. The foot placement areas are sunken below their respective rear wheels making stepping on or off the foot areas from the rear disadvantageously difficult.

The '121 patent discloses a scooter device similarly possessing narrow foot placement platforms, yet with tilted caster rear wheels instead of spring biased rear wheels. This "tilted caster" arrangement has an effect similar to that of the '192 patent, biasing the wheels in the line of direction of the frame member (if aligned therewith) and permitting forward propulsion of the scooter device in response to side to side movement of the user. The foot placement platforms are disadvantageously narrow and run substantially longitudinally, not permitting ready side to side (lateral) positioning by a user on the device.

The '090 patent discloses a scooter device that possesses narrow foot placement platforms and does not utilize spring biased or tilted caster rear wheels. The '090 patent does disclose a scooter device that has a tiltable frame. The tiltable frame permits the steering assembly and wheels to tilt slightly, in parallel, permitting a user to lean the scooter into a turn, etc., thereby enhancing the riding experience. The platforms are disadvantageously small and do not promote lateral positioning by a user.

The '687 patent also discloses a scooter device having narrow foot placement platforms. The '687 patent utilizes discloses a scooter device that uses a yoke and linkage arrangement that permits the steering mechanism and wheels to tilt in parallel, permitting a user to lean

the scooter into a turn, etc. In the '687 patent, the rear wheels are fixedly mounted in place and the frame is configured such that there is no independent movement of the position of the rear wheels. The platforms are disadvantageously small and do not promote lateral positioning by a user.

The prior art also includes tricycles and like devices that may have a front wheel, a pair of rear wheels, a seat, and a rear platform or frame member that extends between the rear wheels and provides enhanced structural connection between the rear wheels.

The scooter devices of the prior art are disadvantageous because they teach narrow foot placement platforms that do not give a user more space to move and/or to more casually or carelessly place their feet (or to welcome additional riders or perform stunts, etc.). Scooter devices of the prior art are also disadvantageous in that they do not provide this or like features in a scooter device with biased direction wheels and/or tiltability of the steering mechanism or frame to enhance performance, etc. The prior art is also disadvantageous in not teaching a scooter device that may be folded, readily disassembled, or otherwise made more compact for storage or transport.

The devices of the prior art are also disadvantageous because they do not provide one or more of: tilting of the steering mechanism or foot platforms to improve turning or accentuate the riding experience; direction biased rear wheels; independent or lateral movement of the rear wheel support member to accentuate propulsion efforts; and a flexible structural element efficiently integrated into the frame of the scooter device, among other reasons. Prior art devices also lack adequate braking.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a side-to-side movement propelled scooter device that overcomes the disadvantageous aspects of the prior art.

It is another object of the present invention to provide such a scooter device that has a laterally extending foot platform between the two rear wheels.

It is yet another object of the present invention to provide such a scooter device that has biased direction mounted rear wheels.

It is also an object of the present invention to provide such a scooter device that may have a releasable frame structure, a flexible frame, a tiltable steering mechanism and/or a foldable frame.

These and related objects of the present invention are achieved by use of a side movement propelled scooter device having expanded foot platform as described herein.

In one embodiment, a scooter device of the present invention may include at least a first forward located wheel and a second and a third rearward located wheel; a frame structure through which the first wheel is coupled to the second and third wheels, wherein the second and third rearward located wheels are mounted in a biased direction arrangement; and a steering mechanism that has a vertically ascending control member and is coupled to the first wheel such that turning of the steering mechanism achieves a turning of the first wheel. The frame structure may include a foot placement platform extending laterally between said second and third wheels, the foot placement platform extending at least approximately half of the distance between the second and third wheels.

In another embodiment, a scooter device of the present invention may include at least a first forward located wheel and a second and a third rearward located wheel; a frame structure through which the first wheel is coupled to the second and third wheels, wherein the second and third rearward located wheels are mounted in a biased direction arrangement; and a steering mechanism coupled to the first wheel · such that turning of the steering mechanism achieves a turning of the first wheel; wherein the frame structure includes a first frame member that is substantially longitudinally disposed and an additional frame member or members that couple to the rearward end of the frame member and extend to the second and third rear wheels. A foot placement platform is preferably mounted to the additional frame member or members.

According to an aspect of the invention, there is provided a scooter device propelled by side to side movement of a user, comprising: at least a first forward located wheel; at least a second and a third rearward located wheel, wherein the second and third rearward located wheels are mounted in a biased direction arrangement; a seatless frame structure through which the first wheel is coupled to the second and third wheels; and a steering mechanism that has an ascending control member and is coupled to the first wheel such that turning of the control member achieves a turning of the first wheel; wherein the frame structure includes a foot placement platform extending laterally between said second and third wheels, the foot placement platform being positioned above the second and third wheels and extending at least approximately half of the distance between the second and third wheels; wherein the frame structure includes a principal longitudinal frame member and the foot placement platform extends substantially laterally outwardly from the frame member toward the second and third wheels; and wherein the foot placement platform includes a second wheel platform section associated with the second wheel and a third wheel platform section associated with the third wheel, each of the second wheel platform section and the third wheel platform section having a lateral dimension that is greater than its longitudinal dimension.

According to a further aspect of the invention, there is provided a scooter device propelled by side to side movement of user, comprising: at least a first forward located wheel; at least a second and a third rearward located wheel; a frame structure through which the first wheel is coupled to the second and third wheels, wherein the second and third rearward

located wheels are mounted in a biased direction arrangement; and a steering mechanism that has a vertically ascending control member and is coupled to the first wheel such that a turning of the steering mechanism achieves a turning of the first wheel; and wherein the frame structure includes a principal longitudinal frame member and a foot placement platform that extends substantially laterally outwardly from the frame member toward the second and third wheels; and wherein the foot placement platform includes a second wheel platform section associated with the second wheel and a third wheel platform section associated with the third wheel, each of the second wheel platform section and the third wheel platform section having a lateral dimension that is greater than its longitudinal dimension.

According to another aspect of the invention, there is provided a scooter device propelled by side to side movement of user, comprising: at least a first forward located wheel; at least a second and a third rearward located wheel; a frame structure through which the first wheel is coupled to the second and third wheels, wherein the second and third rearward located wheels are mounted in a biased direction arrangement; a steering mechanism including a control member coupled to the first wheel such that turning of the control member achieves a turning of the first wheel; and a foot placement platform positioned such that when viewed from above, at least a portion of the platform is linearly between the center of the second and third wheels; wherein the frame structure includes a first frame member that is substantially longitudinally disposed and the foot placement platform is coupled to the first frame member near the rearward end thereof, the foot placement platform extending laterally from the first frame member to the second and third wheels; and wherein the steering mechanism is coupled in a fixed, non-horizontally pivoting manner to the frame structure.

Various other inventive aspects are provided within the present invention as discussed below and indicated in the claims .

The attainment of the foregoing and related advantages and features of the invention should ·be· more readily apparent to those skilled in the art, after review of the following more detailed description of the invention taken together with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figs. 1-3 illustrate a side ·elevation, a bottom perspective, and a rear perspective view of a scooter device in accordance with the present invention.

Fig. 4 is a bottom perspective view of a rear wheel of the scooter device of Figs. 1-3.

Figs. 5-7 illustrate a side elevation view, a top perspective view and a front perspective view (in a folded position) of another embodiment of a scooter device.

Figs. 8-12 are top plan views of the rear portion of other embodiments of a scooter device.

Figs. 13-15 illustrate another embodiment of a scooter device with an expanded user platform.

Fig. 16 is a perspective view of the scooter device of Figs. 5-7 with a braking arrangement.

Figs. 17-20 illustrate a scooter device having a U-shaped flexible frame member and the frame member itself, respectively.

DETAILED DESCRIPTION

Referring to Figs. 1-3, a side elevation, a bottom perspective, and a rear perspective view of a scooter device in accordance with the present invention are respectively shown. The scooter device 10 may include a frame structure 20 that is coupled to a steering mechanism 50 and supports at least a front wheel 12 and at least two rear wheels 22,32. Frame structure 20 may include a joint structure 40 from which a substantially longitudinally disposed (i.e., line of direction) support extends. In the embodiment of Figs. 1-3, the longitudinally disposed support is configured as a single support arm 21 though it may be configured as multiple support arms or other structure that connects to and extends between the steering mechanism and the extended platform. Support arm 21 may be non-movably coupled to steering mechanism 50 (shown in Figs. 1-3) or movably coupled through pivot 41 (shown in Figs. 5-7) or otherwise coupled.

Joint structure 40 may also include a cylindrical shell 45 or the like through which shaft 52 of steering mechanism 50 may extend. Steering shaft 52 may couple to wheel 12 on one end and ascend vertically to a handlebar 54 at its other end. It may include multiple (telescoping

or otherwise configured) sections 55,56 and a height adjustment mechanism (not shown but known in the art).

Scooter device 10 may have a user platform 25 that is coupled to and may be positioned substantially perpendicularly to support arm 21. Platform 25 of Figs. 1-3 preferably extends between the rear wheels 22,32 and provides "standing space" for a user. Platform 25 provides a large, substantially unimpeded surface area that permits a user to carefreely place their feet, ride on one side or the other, invite other riders, and perform stunts with greater foot placement possibilities, etc.

Support arm 21 may be fixedly coupled to platform 25 or through a biased cam 38 or the like that permits movement of the support arm relative to the platform. The biased cam permits movement in response to physical stress, but return to an initial position in the absence of the displacement stress. Since the support arm is coupled to the steering mechanism, a biased cam or like arrangement permits the steering mechanism to tilt relative to the user platform, permitting, for example, a user to lean the steering mechanism into a turn, etc.

Alternatively, forming all or a section of support arm 21 of a rigid yet flexible material (elastic properties), such as fiberglass or flexible metal or polyurethane or the like permits the steering mechanism to move relative to the platform, for example, permitting a user to lean the steering mechanism into a curve.

The provision of platform 25 with support arm 21 (as shown in Figs. 1-3) generally forms the letter "T" or a broad "Y" when viewed from above, with platform members extending out to the side, i.e., laterally from the central support arm. The platform may have different configurations including being round, rectangular,

elliptical, or amorphous, etc., without departing from the present invention.

Fig. 4 illustrates rear wheel 22 (or 32) mounted in a forward tilted caster arrangement. This arrangement achieves a wheel that is capable of turning via rotation about its mounting shaft, yet which self-returns to the line of direction at which it is mounted. Self-returning wheels of this type or a spring bias type are known in the art.

Referring to Figs. 5-7, a side elevation view, a top perspective view and a front perspective view (in a folded position) of another embodiment of a scooter device 110 in accordance with the present invention are respectively shown.

Scooter device 110 may include many of the features of scooter device 10 and other scooter devices described herein. For example, device 110 may include a steering mechanism 150 with a shaft 151 and handle bar 154, a front wheel 112 and two rear wheels 122,132, and a single (or multiple) central support arm 121 that extends to a user platform 125. The user platform 125 may be fixedly or removably coupled to the support arm or coupled through a biased cam or the like 138 that provides a flexible coupling of the platform to the support arm. Rear wheels 122,132 are preferably mounted through tilted casters or the like as discussed elsewhere herein.

The platform 125 may include two foot placement sections 126,136 respectively supporting rear wheels 122,132. These foot placement sections 126,136 may be pivotally coupled to a central mount structure 137, and configured to permit release and folding into the position indicated in Fig. 7. Support arm 121 may be pivotally coupled to steering mechanism 150 at joint structure 140

and folded via releasable pivot 141 into the folded position indicated in Fig. 7. Alternatively, the foot placement sections 126,136 may be detachably coupled to the support arm as discussed in more detail with reference to Figs. 13-15.

Referring to Figs. 8-12, top plan views of the rear portion of three other embodiments of a scooter device, illustrating different user platforms, in accordance with the present invention are respectively shown.

Fig. 8 illustrates a platform 270 having a wide or laterally extending Y or V-shaped configuration and with two tapered platform members 271 that lead to larger foot placement regions 272 towards their periphery.

Fig. 8 illustrates an angle, α, between a line perpendicular to the longitudinal axis of the support arm 221 (i.e., the line of direction of the scooter) and the primary axis (from a center of the platform member at the support arm to the center of the respective wheel) of the platform member 271. The prior art discloses narrow substantially longitudinally disposed platform members such as those in the '121 patent mentioned above. In one or more embodiments of the present invention, the platform members are substantially laterally disposed, with α being less than 45 degrees. The angle, α, may also be greater than 45 degrees yet within the present invention if less than the substantially longitudinally disposed platform members of the prior art. In the embodiment of Fig. 8, α may range from 5 to 45 degrees or from 10 to 35 degrees.

Fig. 9 illustrates a platform 275 having multiple sections 276 mounted on a laterally extending frame member 277. In aggregate, these sections constitute a substantially continuous platform extending from above one rear wheel to above the other.

Referring to Figs. 10-12, top plan views of the rear portion of three other embodiments of a scooter device, illustrating different frame arrangements and user platforms, in accordance with the present invention are respectively shown. Fig. 10 illustrates a frame structure 280 that includes a principal longitudinally disposed support arm 281 (similar to support arm 221) and a laterally extending support member that may be straight 282, U-shaped (curved) 283, V-shaped 284 (Figs. 10-12, respectively) or otherwise configured. In Fig. 12, angle α is approaching 45 degrees.

In Fig. 10, the user platform 286 is provided in two elongated sections 287,288 that extend towards each other. Figs. 11-12 also illustrate platforms with elongated sections 293,294 and 297,298, respectively. If the rear wheels are spaced by a distance, d, the combined length of the elongated platform sections, in a lateral dimension substantially perpendicular to the longitudinal line-of-direction of the scooter device, is preferably 1/2 or more of distance d and, in some embodiments, approximately 2/3 or more of distance d.

The curved or angled embodiments, the elongated platforms, and the substantially continuous platform arrangements, etc., accommodate ready use by different sized users. For example, a 5 year old, being of smaller frame may stand with his or her feet closer to the inside than a larger frame user.

Referring to Figs. 13-15, a perspective, a side elevation and a top plan view of another embodiment of a scooter device 310 in accordance with the present invention is shown. Scooter device 310 may include a front wheel 312, direction biased rear wheels 322,332, a central support shaft 321, a user platform 325, a joint structure 340, and a steering shaft

351 and handle 354. These components preferably function and may be made in a matter similar to their related components discussed herein with reference to other embodiments.

The user platform may include two platforms sections 326,336 and these may be releasably coupled to support arm 321. In one method of releasable attachment, the user platform sections may each be coupled to a plate 328 and the plate coupled to support arm 321 via screws or the like 329. In another embodiment, plate 328 may be fashioned with a groove 327 and each user platform section may have a protrusion that slides into and releasably locks within the groove.

The joint structure 340 may include a pivot 341 about which the support arm and steering shaft may rotate to form a more compact shape, for example, as illustrated in Fig. 7. A pivot bracket or housing 342 and a releasable latch 343 are preferably provided to facilitate proper operation of the pivot. The ability to pivot the steering shaft onto the support arm and remove the user platform sections achieves a compact shape for transport and storage yet yields a functional device with high structural integrity when unfolded and/or assembled for operation.

The user platform sections may extend laterally, for example, as shown in the top plan view of Fig. 15, from the support arm with an angle, α, of 5-45 degrees and more preferably of approximately 10-30 or 35 degrees.

Referring to Fig. 16, a perspective view of scooter device 110 of Figs. 5-7 with a braking arrangement in accordance with the present invention is shown. In the device of Fig. 16, the central mount structure 137 may be coupled to support arm 121 such that the mount structure 137 and platform section 126,135 rotate or pivot downward relative to support arm 121 when a user leans backwards on the platform (the mount structure may be biased towards an initial position). Stated otherwise, the mount structure and/or platform sections may be configured such that when

a user leans on the rear portions of the platform sections, over break extension 176,177 the platform sections pivot downward from the mount structure permitting the brake extensions to contact the ground, thereby braking the scooter device.

Referring to Figs. 17-18, a perspective view and a side elevation view of another embodiment of a flexible frame scooter device 410 in accordance with the present invention are respectively shown. Device 410 may include at least a front wheel 412 and two rear wheels 422,432 coupled to a frame structure 420. A steering mechanism 450 is preferably coupled through joint structure 440 at the front end of the device and the frame structure preferably includes frame arms 421,431 on which foot placement platforms 425,435 are respectively formed.

In the device 410 of Figs. 17-18, the frame structure may include a substantially U-shaped or V-shaped flexible mounting member ("U-shaped member") 460 that is made of a strong, yet flexible material that is resilient and has self-returning properties.

U-shaped member 460 may be fixedly or pivotally mounted through joint structure 440. Figs. 18-19 illustrate connection through pivot 441 and actuation by a release or the like 444. U-shaped member 460 may include frame arm mounting members 462,463 into which frame arms 421,431 are secured. The mounting members may be formed in a complementary manner to receive frame arms 421,431. The U-shaped member is preferably made of polyurethane, fiberglass or another suitable material.

Fig. 19 illustrates device 410 with the steering mechanism 450 uncoupled at release 444 and pivoted downwardly at pivot 441 onto frame arms 421,431 to form a more compact arrangement.

Fig. 20 is a perspective view of another embodiment of a U-shaped frame member in accordance with the present invention. U-shaped frame member is similar to U-shaped frame member 460 of Figs. 17-19 yet preferably includes a reinforcing band or section 481 that may extend between the complementary mounting members 482,483 (similar to mounting members 462,463) and be formed integrally with those members and/or U-shaped wall or body 485. If reinforcing section 481 is not provided a reinforcing crossbar or the like may be provided between the frame arms 421,431.

With respect to materials, the various components of the scooter device may be made with known materials. The frame is preferably made of a lightweight rigid, durable material such as aluminum or other metal or alloys thereof. A flexible frame member may be made of fiberglass, a flexible metal or other. Platforms may be made of metal, plastic or of the same material used to make skateboard platforms, among other materials.

While the invention has been described in connection with specific embodiments thereof, it will be understood that it is capable of further modification, and this application is intended to cover any variations, uses, or adaptations of the invention following, in general, the principles of the invention and including such departures from the present disclosure as come within known or customary practice in the art to which the invention pertains and as may be applied to the essential features hereinbefore set forth, and as fall within the scope of the invention and the limits of the appended claims.

CLAIMS

1. A scooter device propelled by side to side movement of a user, comprising:

at least a first forward located wheel;

at least a second and a third rearward located wheel, wherein the second and third rearward located wheels are mounted in a biased direction arrangement;

a seatless frame structure through which the first wheel is coupled to the second and third wheels; and

a steering mechanism that has an ascending control member and is coupled to the first wheel such that turning of the control member achieves a turning of the first wheel;

wherein the frame structure includes a foot placement platform extending laterally between said second and third wheels, the foot placement platform being positioned above the second and third wheels and extending at least approximately half of the distance between the second and third wheels;

wherein the frame structure includes a principal longitudinal frame member and the foot placement platform extends substantially laterally outwardly from the frame member toward the second and third wheels; and

wherein the foot placement platform includes a second wheel platform section associated with the second wheel and a third wheel platform section associated with the third wheel, each of the second wheel platform section and the third wheel platform section having a lateral dimension that is greater than its longitudinal dimension.

2. The scooter device of claim 1, wherein the foot placement platform extends laterally at least approximately two-thirds of the distance between the second and third wheels.

3. The scooter device of claim 1, wherein the foot placement platform extends substantially continuously from the second wheel to the third wheel.

4. The scooter device of claim 2, wherein the steering mechanism is coupled in a fixed, non-horizontally pivoting manner to the frame member and the frame member is fixedly coupled to the foot placement platform.

5. The scooter device of claim 1, wherein the frame structure includes a biased joint, coupling the frame structure to the foot placement platform, that is movable and biased toward an initial configuration and wherein a top region of the ascending control member may move laterally when a force is applied to the top region that is greater than the bias force of the biased joint.

6. The scooter device of claim 5, wherein the frame structure is configured at least in part of a flexible material from the group of flexible materials including fiberglass, flexible steel and polyurethane.

7. The scooter device of claim 1, wherein the frame structure is at least in part movable towards the ascending control member to form a more compact arrangement for transport or storage.

8. The scooter device of claim 1, wherein the foot placement platform is moveable by a user relative to another portion of the frame structure to initiate a braking of the scooter device.

9. A scooter device propelled by side to side movement of user, comprising:

at least a first forward located wheel;

at least a second and a third rearward located wheel;

a frame structure through which the first wheel is coupled to the second and third wheels, wherein the second and third rearward located wheels are mounted in a biased direction arrangement; and

a steering mechanism that has a vertically ascending control member and is coupled to the first wheel such that a turning of the steering mechanism achieves a turning of the first wheel; and

wherein the frame structure includes a principal longitudinal frame member and a foot placement platform that extends substantially laterally outwardly from the frame member toward the second and third wheels; and

wherein the foot placement platform includes a second wheel platform section associated with the second wheel and a third wheel platform section associated with the third wheel, each of the second wheel platform section and the third wheel platform section having a lateral dimension that is greater than its longitudinal dimension.

10. The scooter device of claim 9, wherein the foot placement platform is positioned above the second and third wheels and extends substantially continuously from the second wheel to the third wheel.

11. The scooter device of claim 9, wherein the steering mechanism is coupled in a fixed, non-horizontally pivoting manner to the frame member and the frame member is fixedly coupled to the foot placement platform.

12. The scooter device of claim 9, wherein the frame structure is configured such that the vertically ascending control member may be moved laterally substantially perpendicular to the line of direction of travel of the scooter device while the second and third wheels remain on the ground.

13. The scooter device of claim 9, wherein the frame structure includes a biased joint, coupling the frame structure to the foot placement platform, that is movable and biased toward an initial configuration and wherein a top region of the vertically ascending control member may move laterally when a force is applied to the top region that is greater than the bias force of the biased joint.

14. The scooter device of claim 9, wherein the frame structure is at least in part movable towards the vertically ascending control member to form a more compact arrangement for transport or storage.

15. The scooter device of claim 9, wherein the foot placement platform includes at least a first section and a second section and the first and second sections are movable relative to the principal longitudinal frame member into a more compact arrangement for transport or storage.

16. The scooter device of claim 9, wherein the foot placement platform is movable by a user relative to the principal longitudinal frame member to initiate a braking of the scooter device.

17 A scooter device propelled by side to side movement of user, comprising:

at least a first forward located wheel;

at least a second and a third rearward located wheel;

a frame structure through which the first wheel is coupled to the second and third wheels, wherein the second and third rearward located wheels are mounted in a biased direction arrangement;

a steering mechanism including a control member coupled to the first wheel such that turning of the control member achieves a turning of the first wheel; and

a foot placement platform positioned such that when viewed from above, at least a portion of the platform is linearly between the center of the second and third wheels;

wherein the frame structure includes a first frame member that is substantially longitudinally disposed and the foot placement platform is coupled to the first frame member near the rearward end thereof, the foot placement platform extending laterally from the first frame member to the second and third wheels; and

wherein the steering mechanism is coupled in a fixed, non-horizontally pivoting manner to the frame structure.

18. The scooter device of claim 17, wherein the foot placement platform is positioned above the second and third wheels.

19. The scooter device of claim 17, wherein the foot placement platform extends substantially continuously from the second wheel to the third wheel.

20. The scooter device of claim 17, wherein the foot placement platform includes a second wheel platform section associated with the second wheel and a third wheel platform section associated with the third wheel, each of the second wheel platform section and the third wheel platform section having a lateral dimension that is greater than its longitudinal dimension.

21. The scooter device of claim 17, wherein the frame structure is at least in part movable towards the vertically ascending control member to form a more compact arrangement for transport or storage.

22. The scooter device of claim 17, wherein the foot placement platform is movable by a user relative to the first frame member to initiate a braking of the scooter device.

23. The scooter device of claim 1, wherein the frame structure is configured of a material that has an elasticity that permits a top region of the vertically ascending control member to move laterally relative to the foot placement platform in response to a force applied to the top region by a user, the elasticity of the material also causing the vertically ascending control member to regain its initial position in the absence of the user applied force.

24. The scooter device of claim 9, wherein the frame structure is configured of a material that has an elasticity that permits a top region of the vertically ascending control member to move laterally relative to the foot placement platform in response to a force applied to the top region by a user, the elasticity of the material also causing the vertically ascending control member to regain its initial position in the absence of the user applied force.

25. The scooter device of claim 1, wherein the biased direction arrangement includes a forward tilted caster arrangement.

26. The scooter device of claim 9, wherein the biased direction arrangement includes a forward tilted caster arrangement.

27. The scooter device of claim 17, wherein the biased direction arrangement includes a forward tilted caster arrangement.

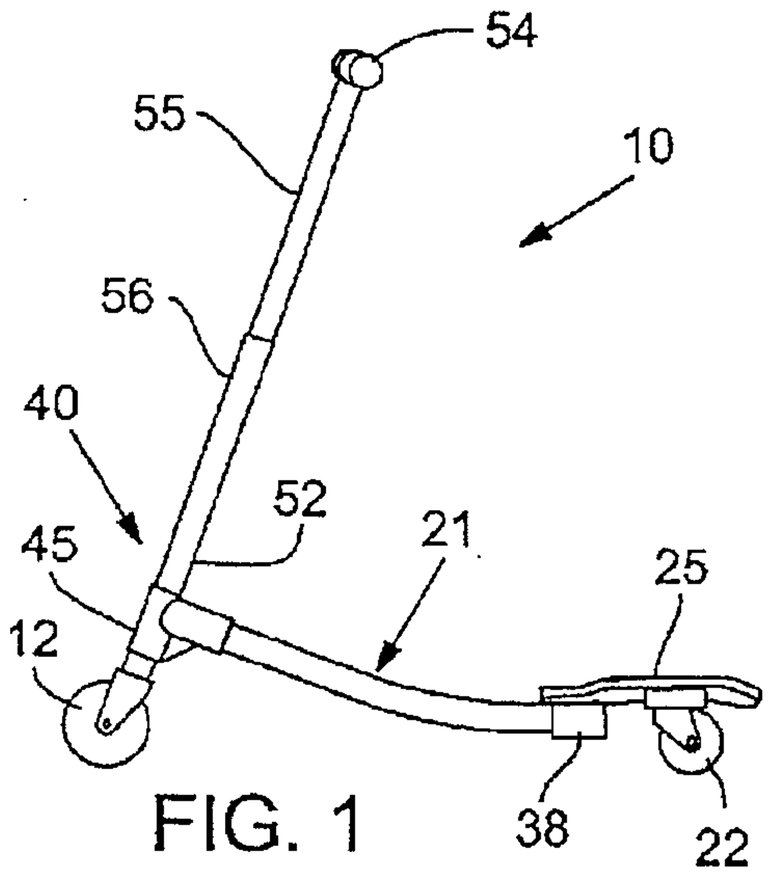


FIG. 1

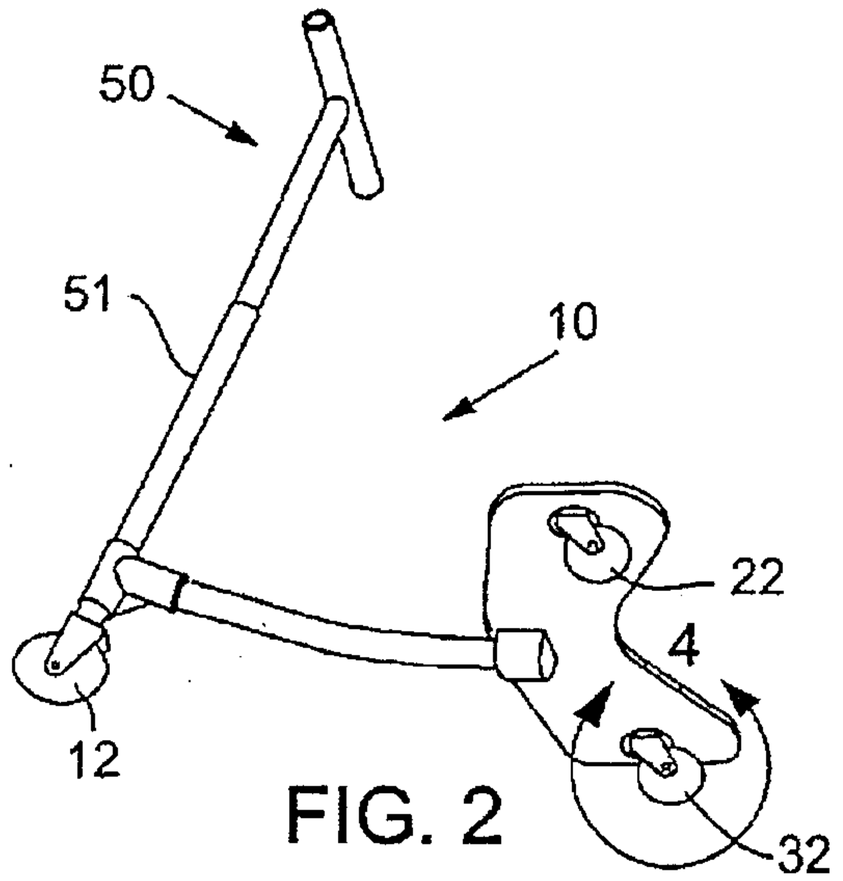


FIG. 2

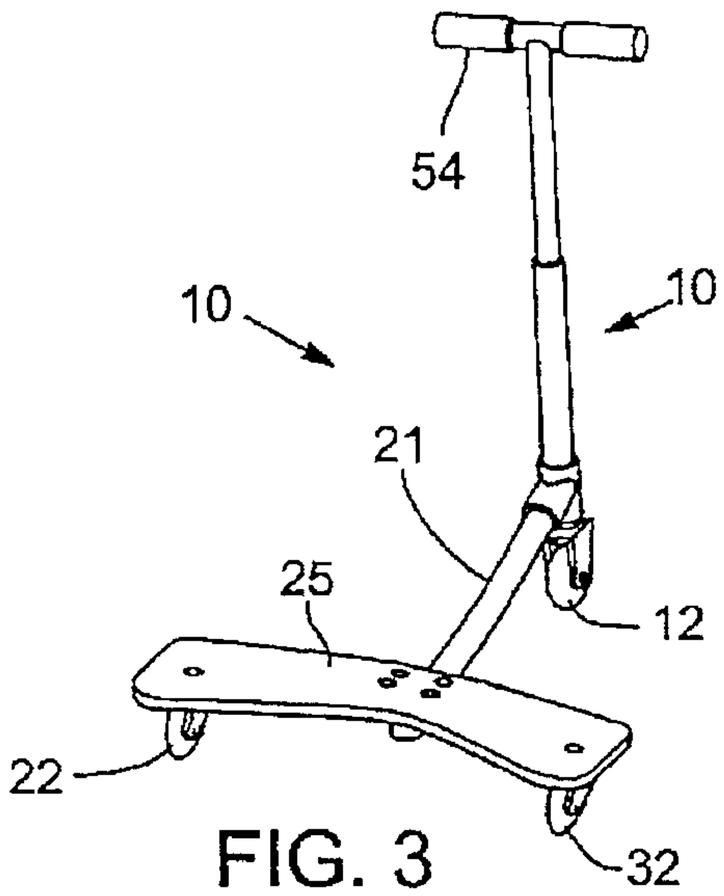
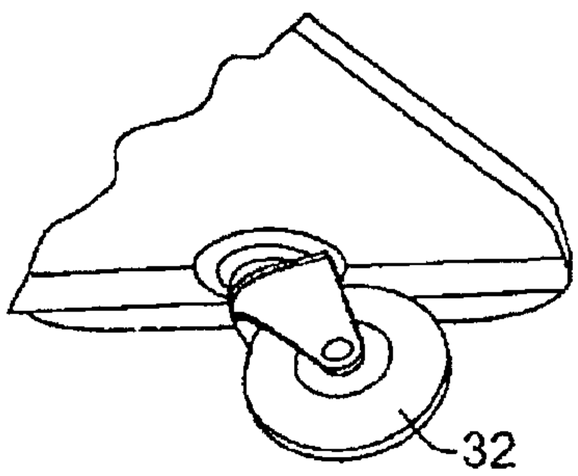


FIG. 3

FIG. 4



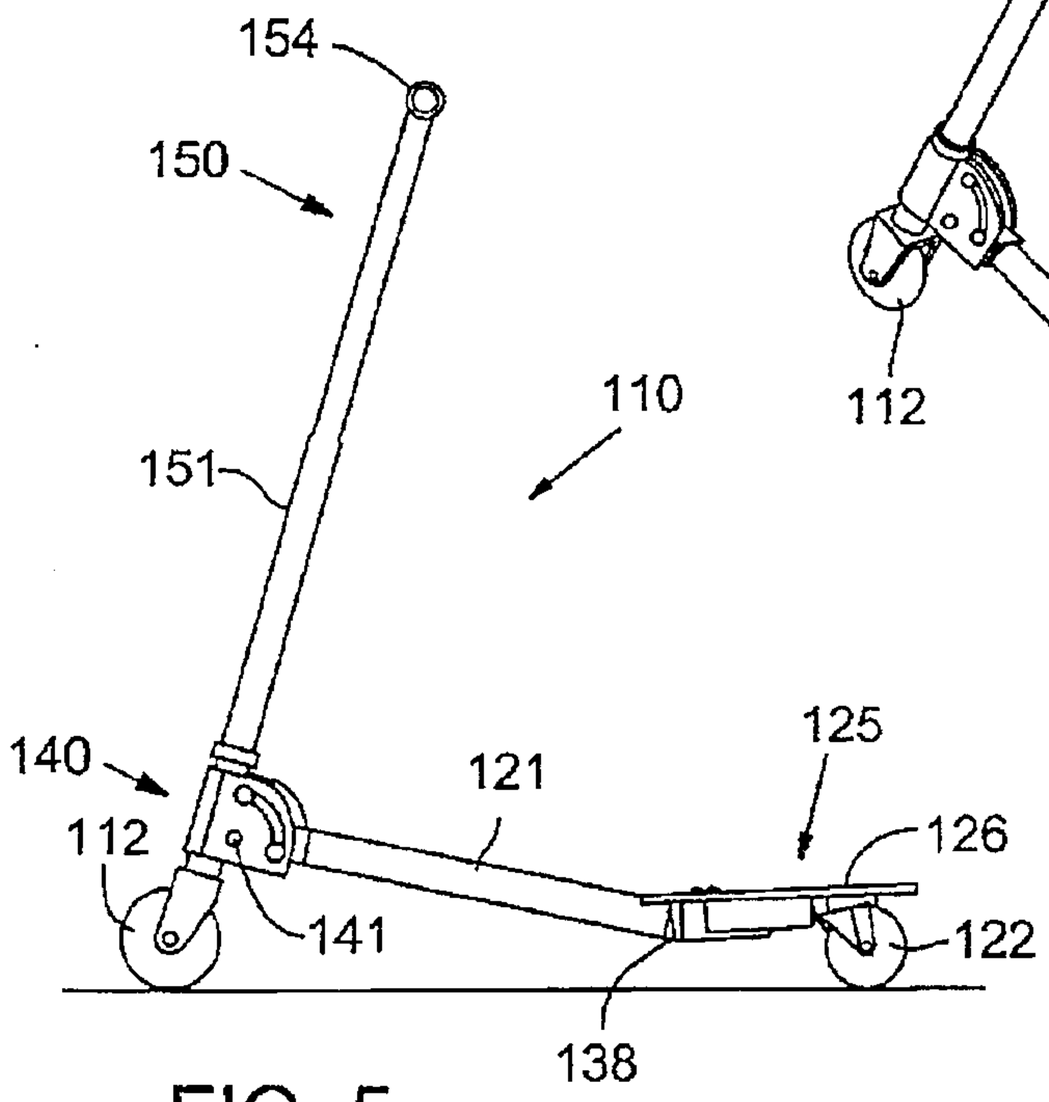


FIG. 5

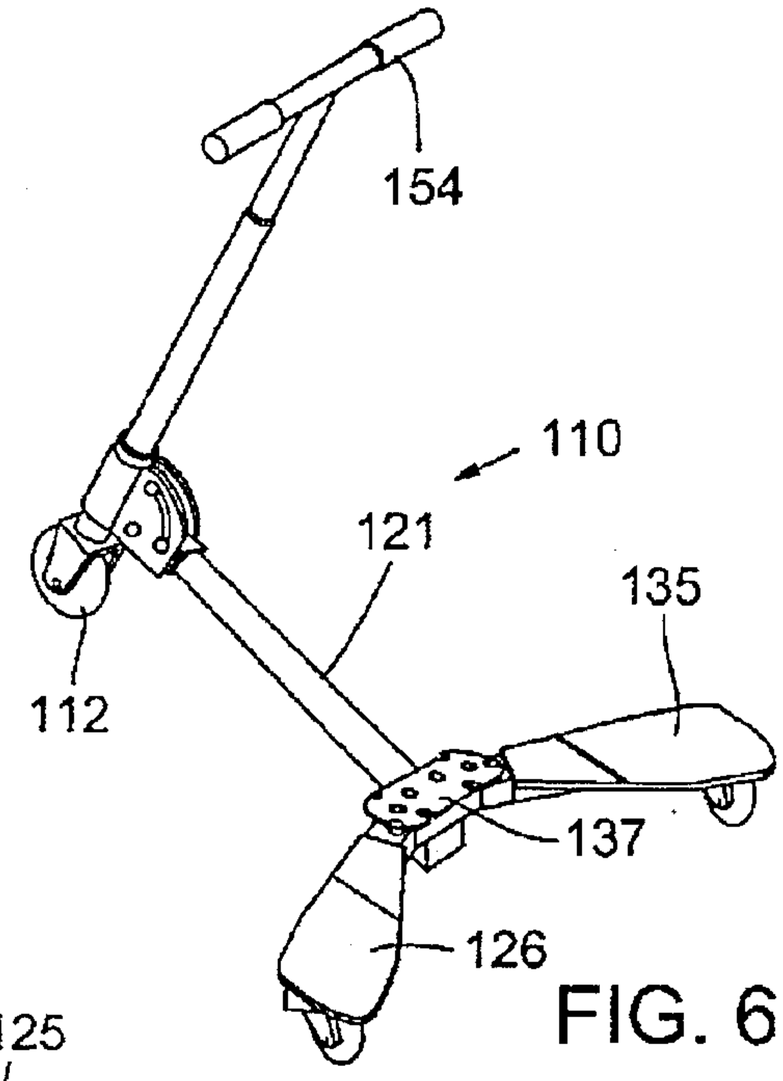


FIG. 6

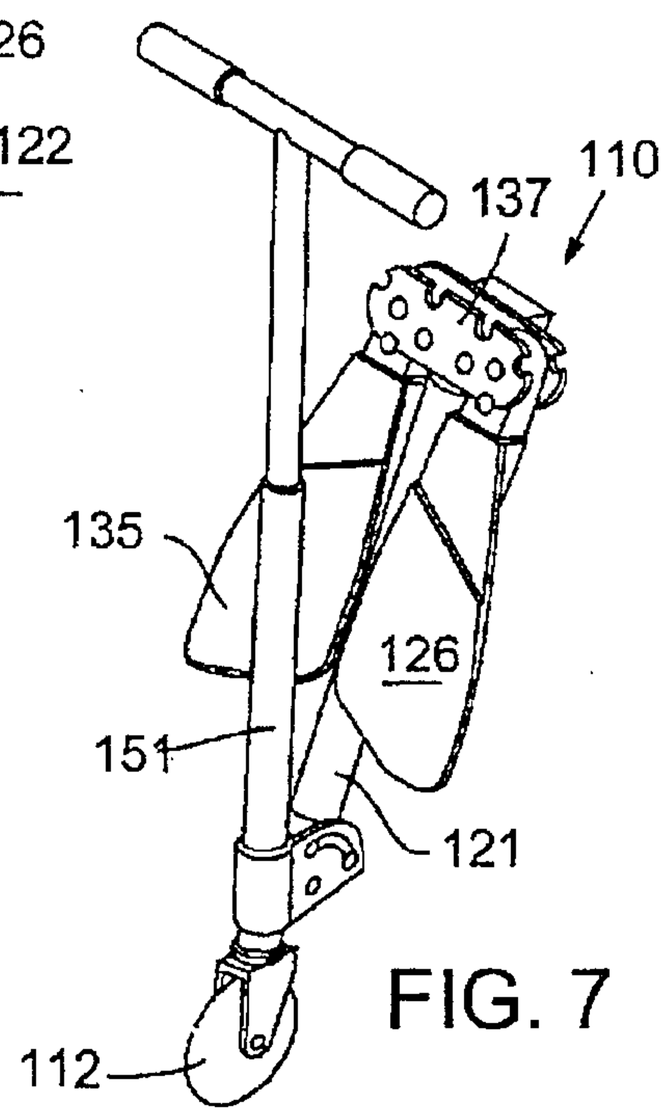


FIG. 7

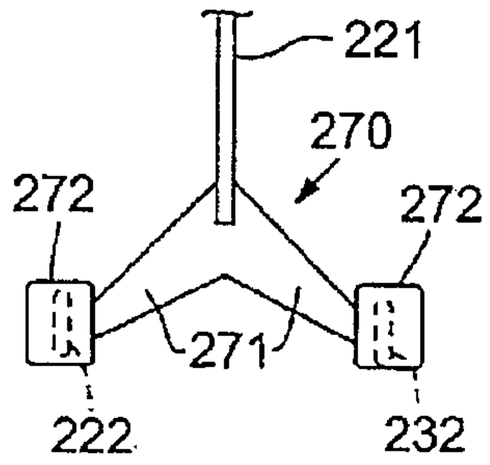


FIG. 8

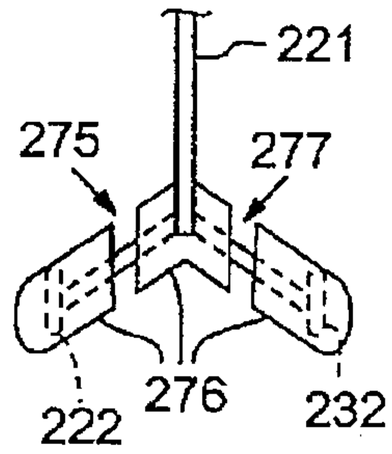


FIG. 9

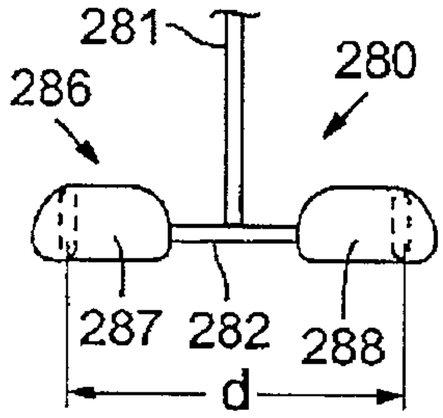


FIG. 10

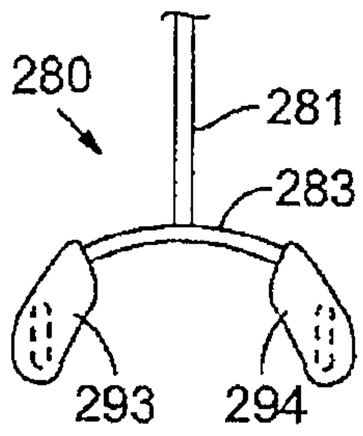


FIG. 11

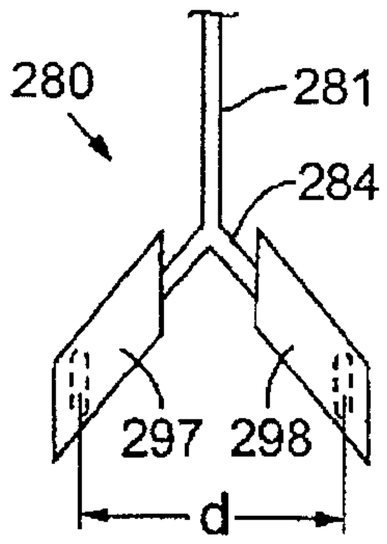


FIG. 12

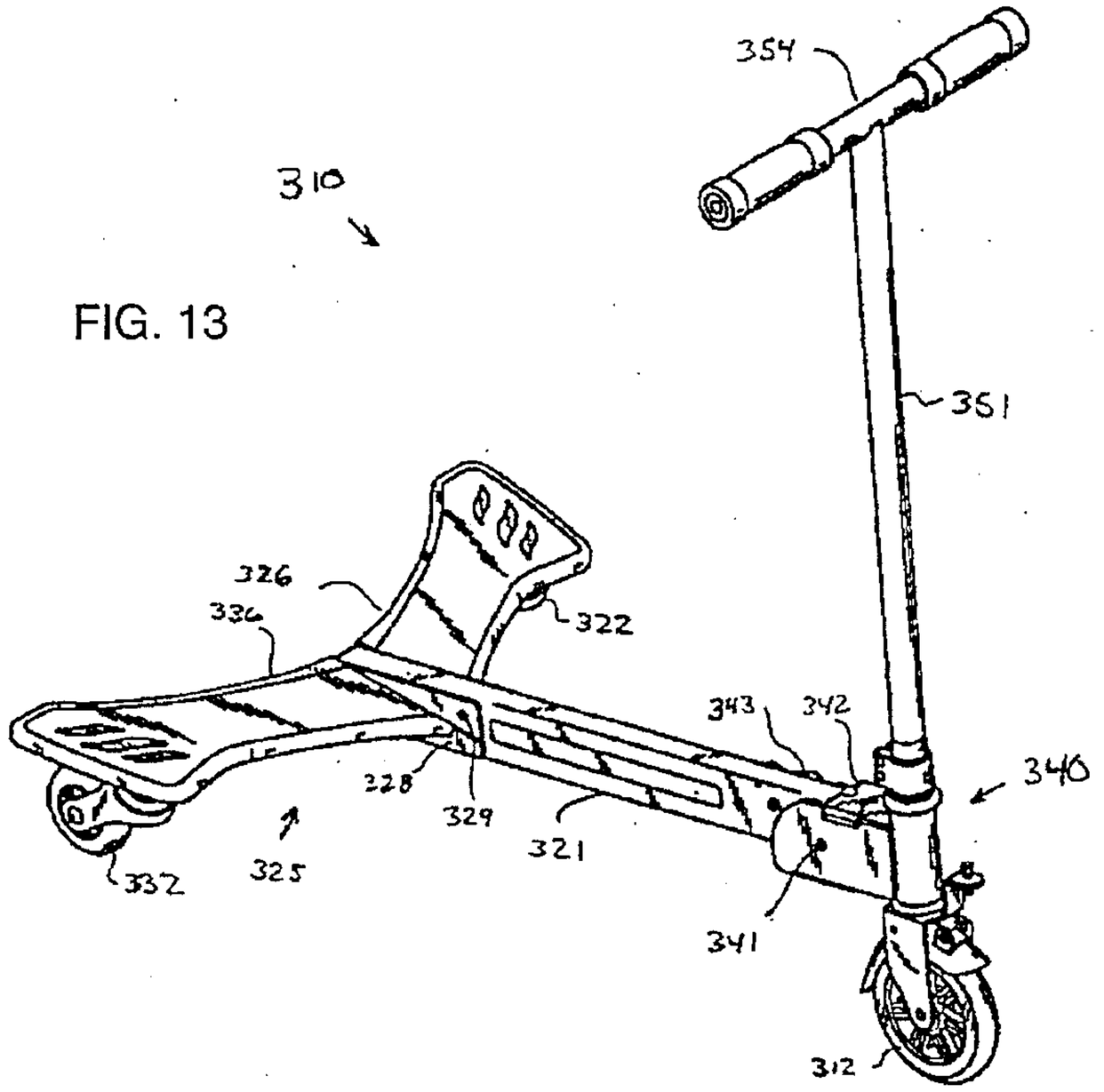

354
310
351
326
336
322
343
342
340
328
329
321
325
332
341
312

FIG. 13

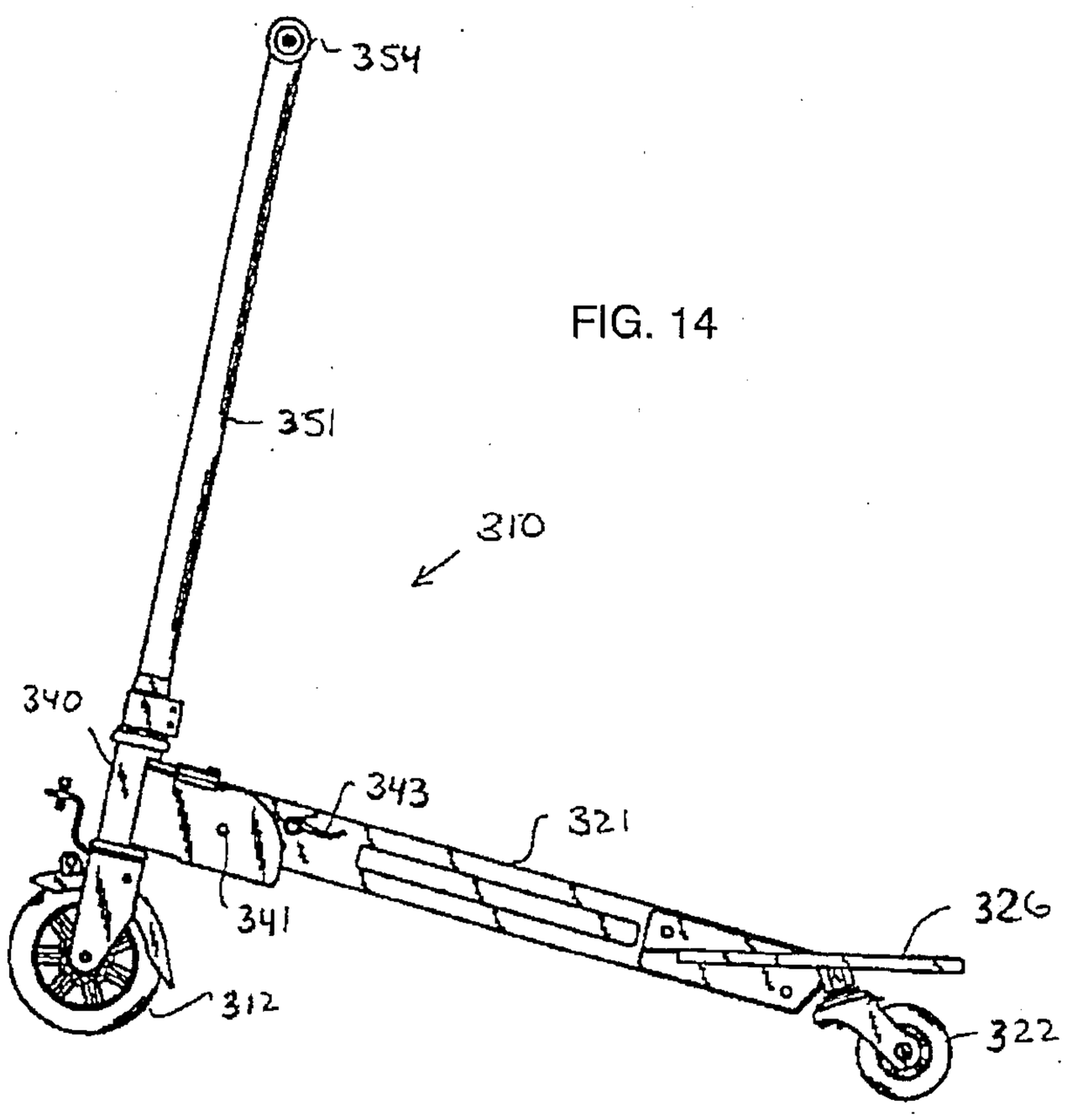

354
351
310
340
343
321
341
326
312
322

FIG. 14

FIG. 15

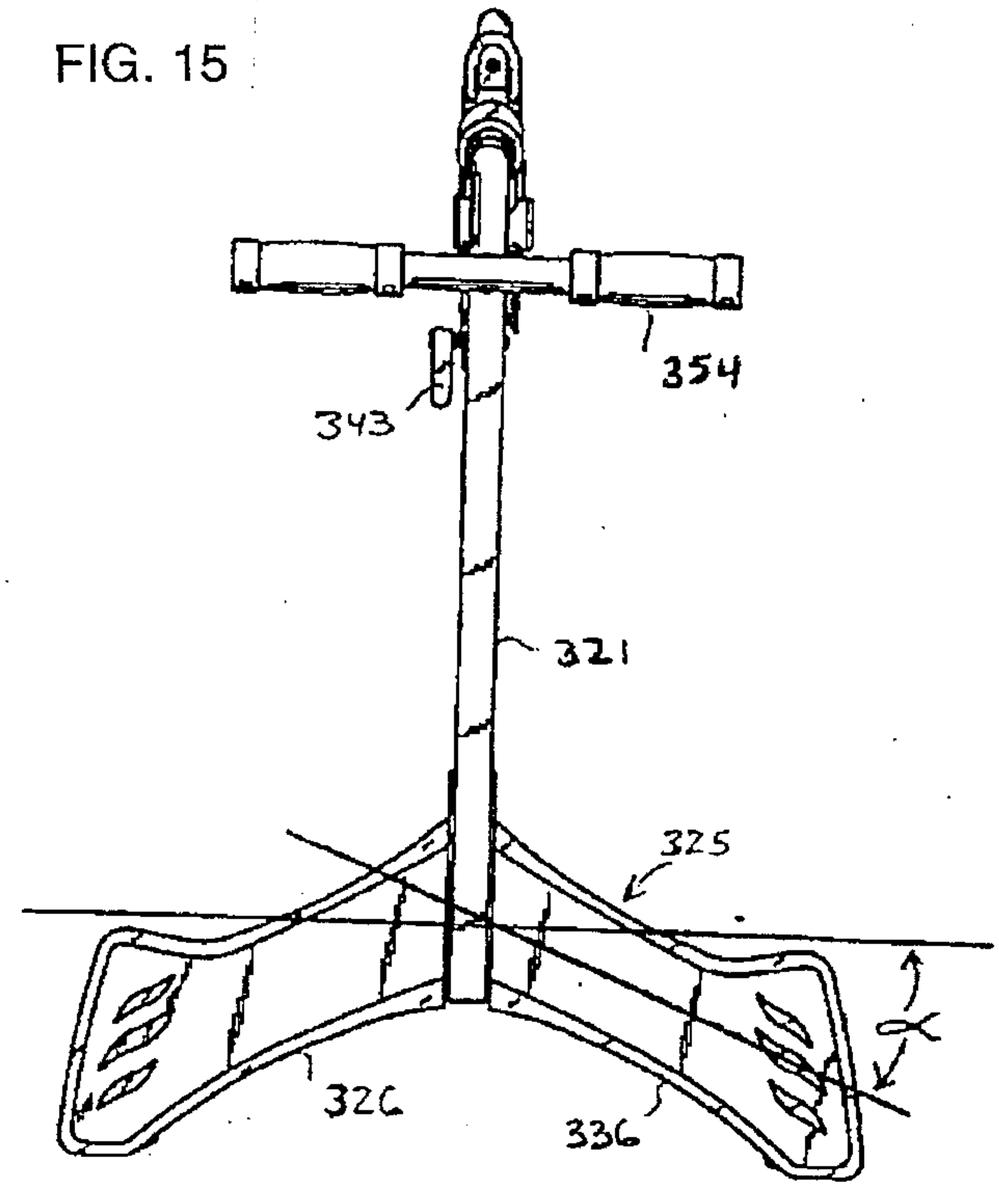
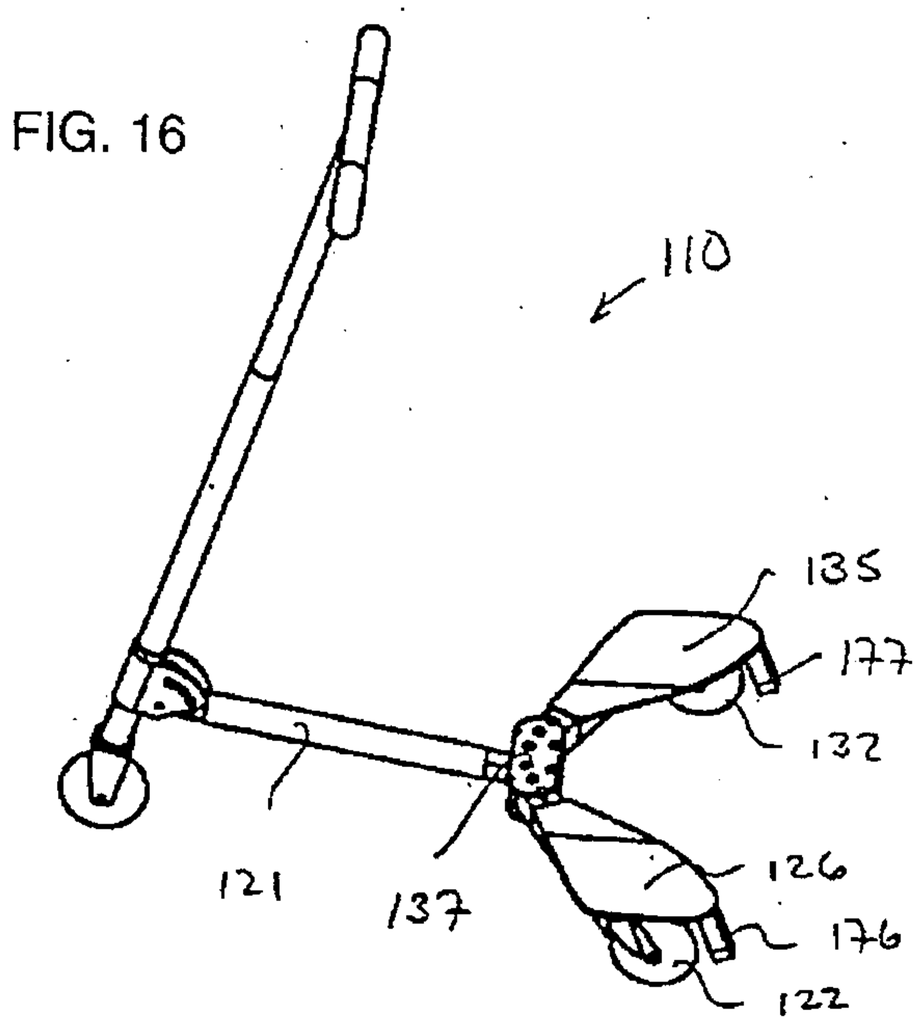


FIG. 16



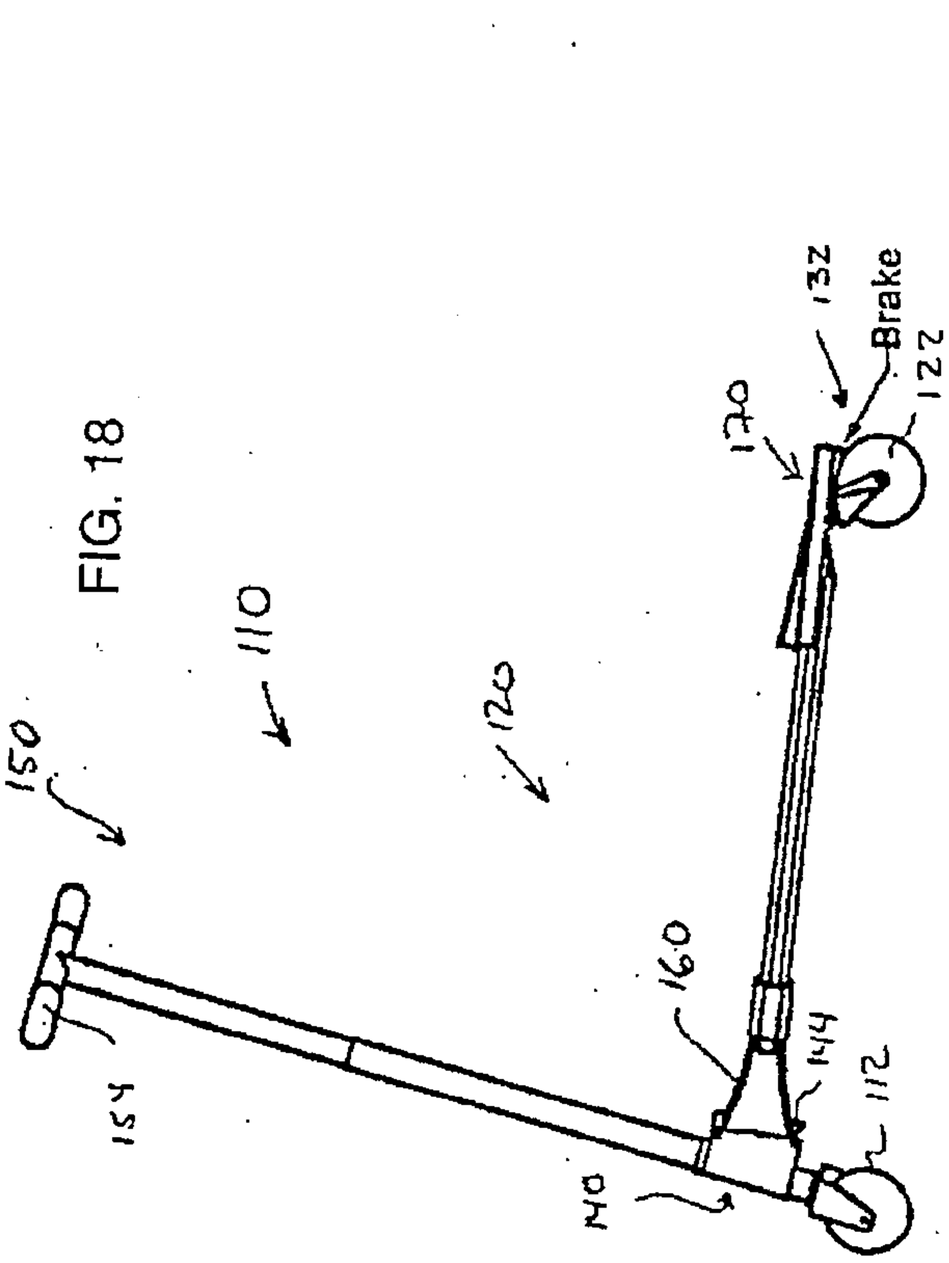


FIG. 18

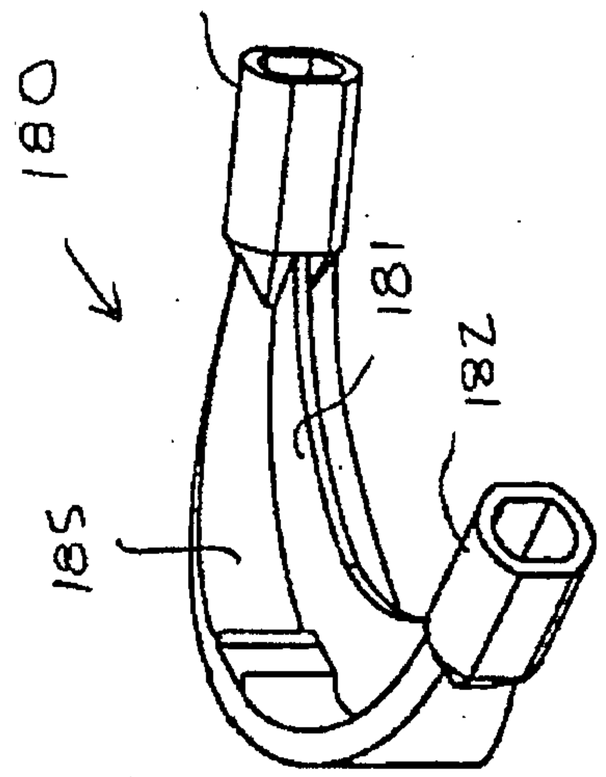


FIG. 20

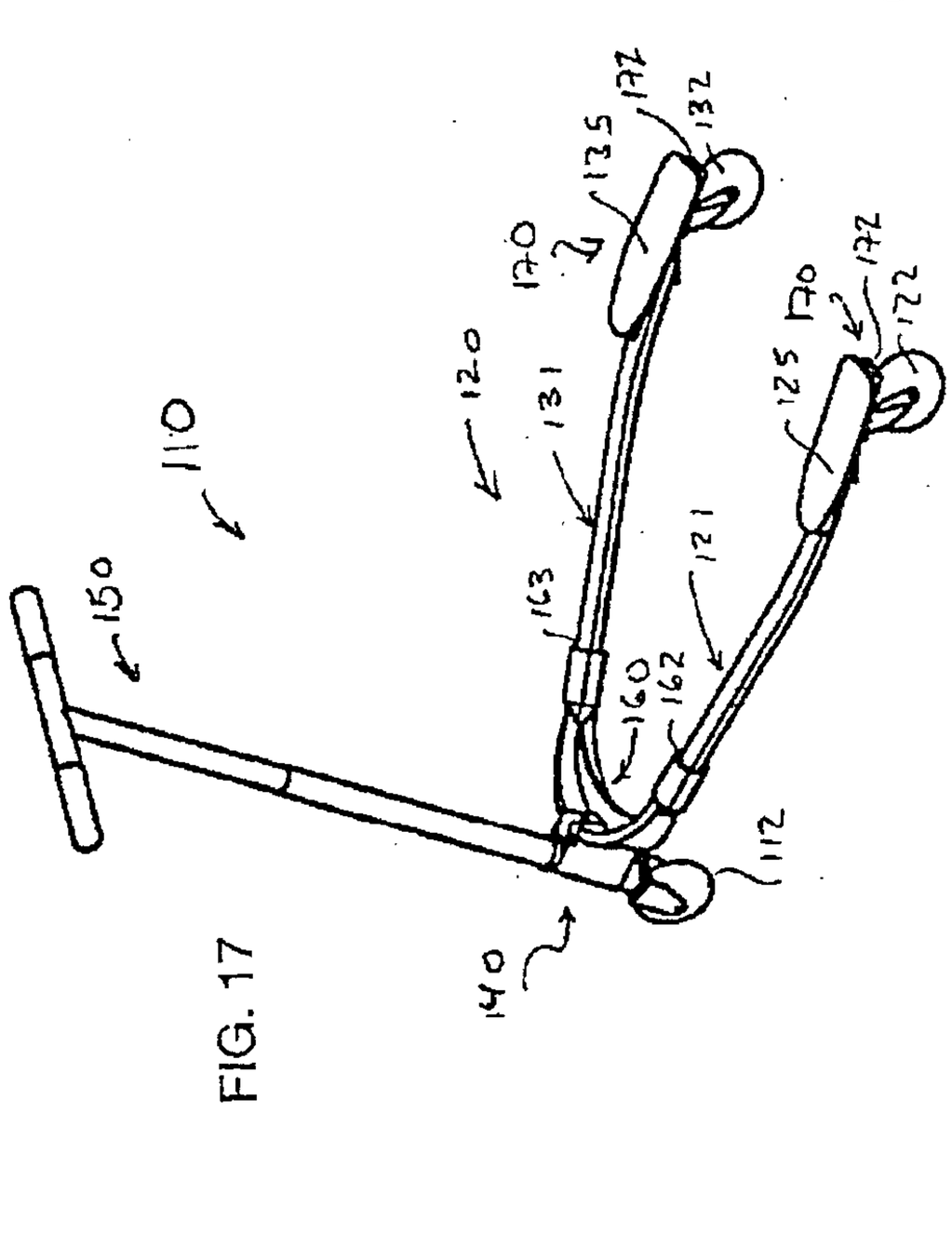


FIG. 17

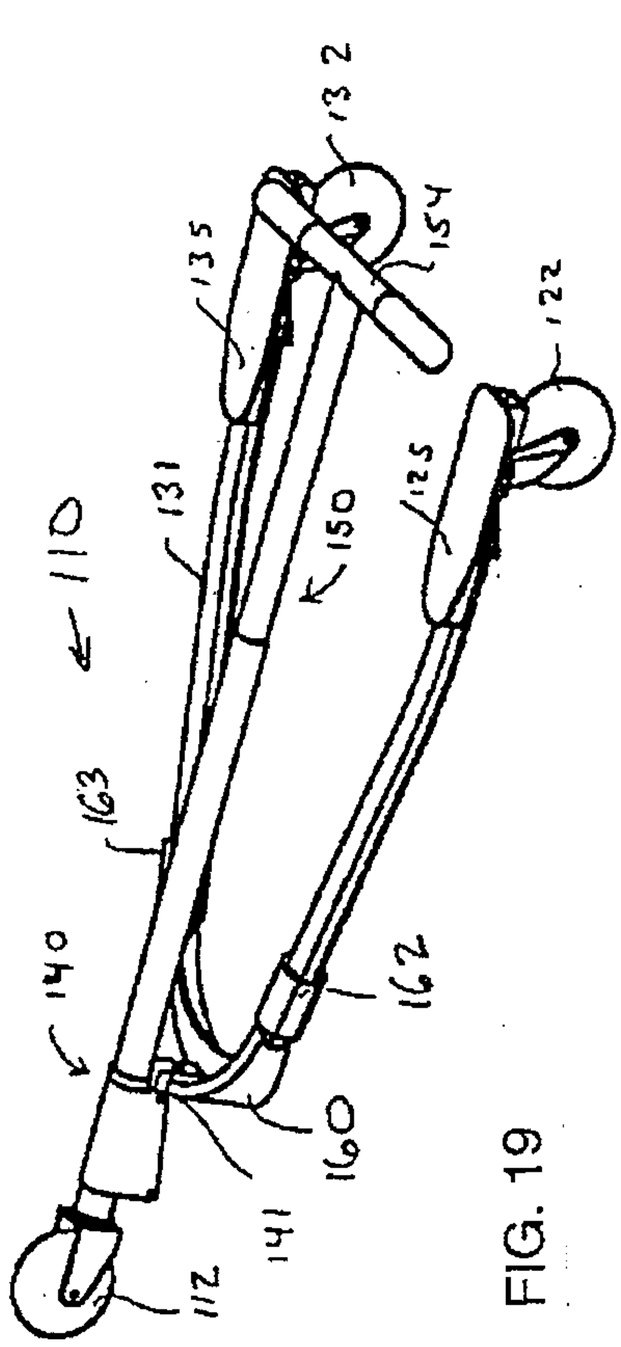
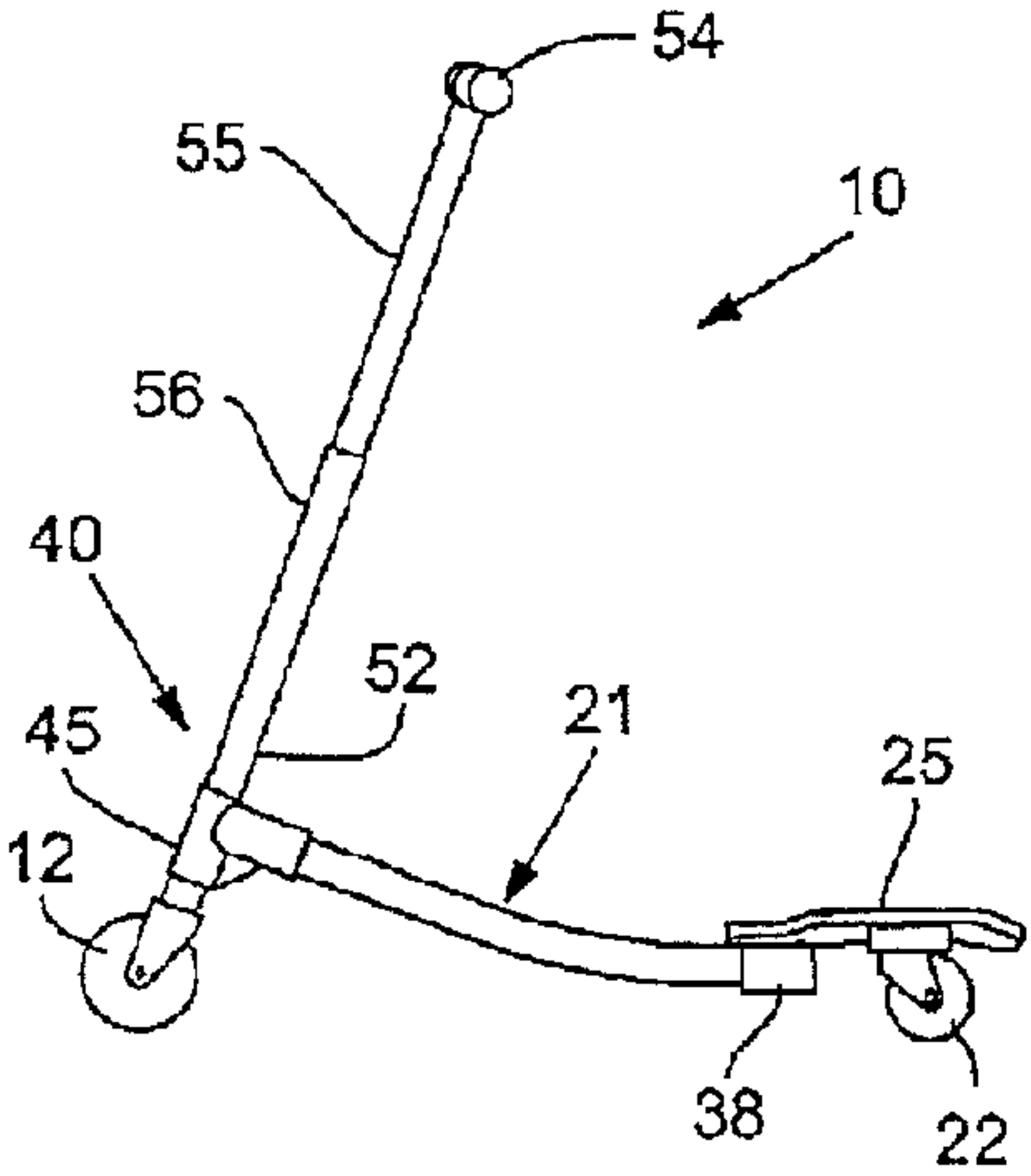


FIG. 19


54
55
10
56
40
52
45
21
25
12
38
22