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(72) Inventor: **Horikoshi, Kenji**
Tokyo (JP)

(74) Representative: **Bates, Philip Ian**
Reddie & Grose
16 Theobalds Road
London
WC1X 8PL (GB)

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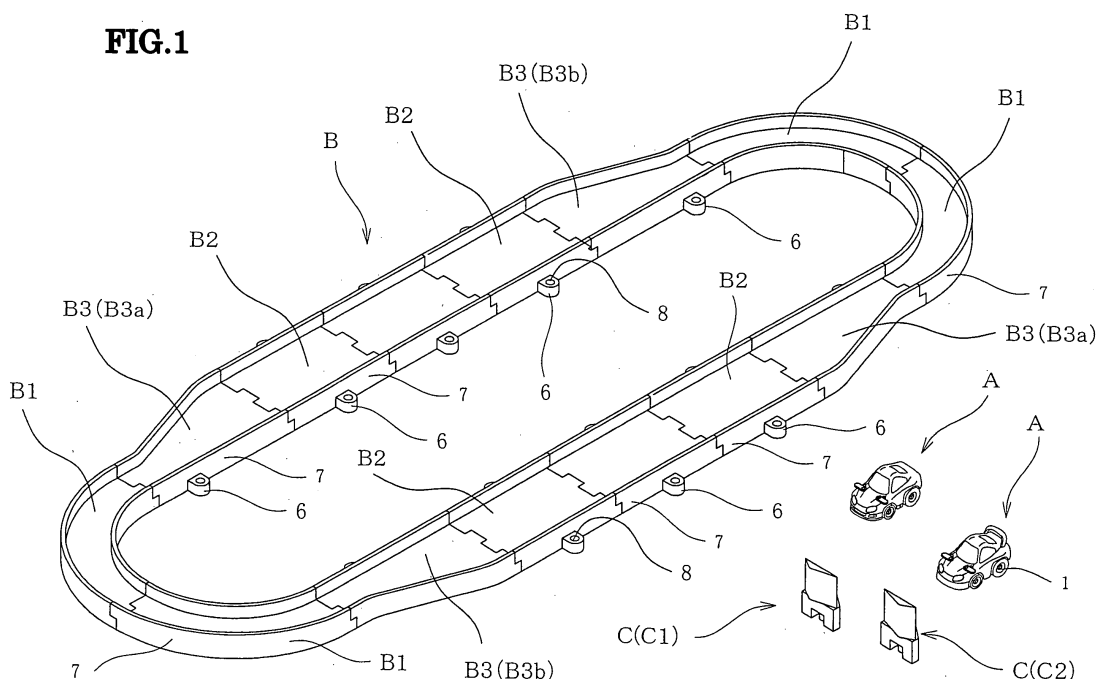
(71) Applicant: **Tomy Company, Ltd.**
Katsushika-ku
Tokyo (JP)

(54) **Running toy system**

(57) A running toy system includes running toys (A) and a running path (B) on which the running toys (A) run. The running path (B) includes a first running path portion (B1) with a width allowing running of one running toy (A), a second running path portion (B2) with a width allowing parallel running of at least two running toys (A), and a third running path portion (B3) whose width increases from one end thereof toward the other end to connect one end thereof to the first running path portion (B1) and

the other end thereof to the second running path portion (B2). A running lane changing member (C) for forcibly changing a running lane of the running toy (A) is provided on one or both of the second running path portion (B2) and the third running path portion (B3), wherein, when a projecting member (3) of the running toy (A) is engaged with the running lane changing member (C), the running toy changes its running lane in a direction of separating it from the running lane changing member (C).

FIG.1



Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a running toy system, and in particular to a running toy system comprising a combination of a running toy and a running path on which the running toy runs, wherein a running direction of the running toy is forcibly changed by the running path.

2. Description of the Related Art

[0002] Conventionally, a running toy system wherein a running path on which a plurality of running toys runs has a running path width wherein at least two running toys can run in parallel, running directions of the plurality of running toys are the same, and a nip-and-tuck race is conducted by controlling speeds of the running toys utilizing a remote-control operation is popular. However, a running toy system where users or players can enjoy a race without the need to utilize the remote-control operation has been proposed (see, for example, Japanese Patent Application Laid-Open Publication No. 2007-209560). The system is configured such that the running toys are each provided therein with a memory that stores a respective running pattern and running speeds of the running toys are automatically changed by reading the running patterns stored in the memories, whereby the users or players can enjoy a feeling as if they are conducting a remote-control operation.

[0003] In the above-mentioned running toy system, when a plurality of running toys is caused to run on the same running path, running speeds of the running toys are automatically changed so that a running state as if a race is conducted is realized but all running directions of the running toys are the same and the running toys simply go around the running path so that users or players may get weary before long.

[0004] The present invention has been made so as to solve the above problem. Accordingly, it is an object of the present invention to provide a running toy system which is based upon a novel idea quite different from conventional or heretofore proposed running toys that simply go around a running path and which can, despite running toys each being provided with a function of only running simply, provide users a new type of enjoyment that cannot be obtained in playing using the conventional or heretofore proposed running toys to compete to see which car runs the fastest.

SUMMARY OF THE INVENTION

[0005] In order to solve the above problem, according to the present invention, there is provided a running toy system. The running toy system comprises: a running toy; a running path on which the running toy runs, the

running path including a first running path portion with a running path width allowing running of one running toy, a second running path portion with a wide running path width allowing parallel running of at least two running toys, and a third running path portion whose width increase from one end thereof toward the other end to connect the one end thereof to the first running path portion and the other end thereof to the second running path portion; the running toy including a projecting member adapted to project laterally from a toy main body thereof; and a running lane changing member provided on a running path portion of one or both of the second running path portion and the third running path portion for forcibly changing a running lane of the running toy, wherein when the projecting member of the running toy is engaged with the running lane changing member at a running time of the running toy, the running toy changes a running lane thereof in a direction so that the running toy separates from the running lane changing member.

[0006] Incidentally, it is preferable that the running lane changing member include an engagement plate which is formed to project in an approximately triangular shape toward the inside of the running path in plan view so as to be engaged with the projecting member. It is preferable that the engagement plate of the running lane changing member have two engagement faces different in inclination angle to a running direction.

[0007] The projecting member may be provided so as to be operable to retractably project from a side face of the toy main body, so that a selection about whether the projecting member should be caused to project or to retreat can be made.

[0008] Further, the second and third running path portions may each be provided thereon with a mounting portion to which the running lane changing member is detachably attached so that the running lane changing member is attached to any of the mounting portions.

[0009] Furthermore, it is preferable that the first running path portion, the second running path portion, and the third running path portion have bottom plates and side walls provided at both sides of the bottom plates in a standing manner, respectively, a running path width being defined by the side walls at both sides of the bottom plates, and the running path be formed in an endless manner by connecting the first running path portion, the second running portion, and the third running path portion. The running toy can be configured to run to simply go straight ahead.

[0010] According to the present invention, whether or not a lane on which the running toy running on the running path runs is changed is determined according to whether or not the projecting member of the running toy is engaged with the running lane changing member, and when the running toys are caused to run in directions opposite to each other, there occurs a case where the running toys can avoid a frontal collision or a case where they cannot avoid a frontal collision. Thus, a running toy system based upon a novel idea, which can provide users

with a new type of enjoyment that cannot be obtained in a conventional running toy system wherein running toys are caused to run in the same direction to simply compete as to the fastest car thereof, can be provided.

[0011] According to an embodiment of the present invention, since an impact occurring when the projecting member of the running toy is engaged with an engagement face of the running lane changing member having a large inclination is made large so that a forcible lane change is performed and an impact occurring when the projecting member is engaged with an engagement face of the running lane changing member having a small inclination is made small so that a lane change is made difficult, whether or not lane change occurs can be set according to whether the running direction of the running toy is a clockwise direction or a counterclockwise direction even if the same running lane changing member is used.

[0012] According to another embodiment of the present invention, since whether or not the projecting member is caused to project from a side face of the running toy can be set, when the projecting member is caused to project, a running lane change is performed by the running lane changing member, and when the projecting member is not caused to project, a running lane change is not performed by the running lane changing member, so that whether the running toy is caused to run while conducting a lane change or it is caused to run without conducting a lane change can be set freely.

[0013] According to still another embodiment of the present invention, since the mounting member for mounting the running lane changing member is provided on the running path having a wide running path width, a position where running lane change should be conducted can be set freely.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Fig. 1 is a perspective view showing a configuration of a running toy system according to the present invention;

[0015] Figs. 2A and 2B are perspective views showing states of projecting portions provided on a running toy;

[0016] Figs. 3A and 3B are a plan view showing first, second, and third running path portions, and a plan view showing one example of a running path formed by a combination of the first, second, and third running path portions;

[0017] Figs. 4A and 4B, and 4C and 4D are perspective views of first and second running lane changing members as viewed from above and perspective views thereof as viewed from beneath;

[0018] Figs. 5A and 5B are plan views for explaining a function of the running lane changing member in an advancing direction of the running toy, respectively;

[0019] Fig. 6 is a perspective view showing a manner of use of the running toy system;

[0020] Fig. 7 is a plan view showing one example of a

manner of use of the running toy system;

[0021] Fig. 8 is a plan view showing another example of a manner of use of the running toy system;

[0022] Fig. 9 is a plan view showing still another example of a manner of use of the running toy system; and

[0023] Fig. 10 is a plan view showing still another example of a manner of use of the running toy system.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0024] Fig. 1 shows an embodiment of a running toy system according to the present invention, wherein the running toy system comprises running toys A, a running path B on which the running toys A run, and running lane changing members C which forcibly change a running direction of the running toy A.

[0025] Each of the running toys A does not include a steering mechanism and it comprises a running toy which rotates driving wheels 1 to go straight ahead simply. A driving mechanism for rotating the driving wheels 1 may comprise a spiral spring, a motor, or the like. Any driving mechanism which causes the running toy to go straight ahead can be adopted.

[0026] As shown in Fig. 2A, the running toy A includes projecting members 3 provided on a hood. The projecting member 3 can be rotated about a supporting shaft 4 in a horizontal direction and when the projecting member 3 is rotated outwardly until the rotation is blocked by a stopper 5, a distal end of the projecting member 3 projects from a toy main body 2 outwardly (see Fig. 2B).

[0027] As shown in Fig. 3A, the running path B comprises a first running path portion B1 with a running path width allowing running of one running toy, a second running path portion B2 with a running path width allowing at least two running toys to go by each other, and a third running path portion B3 whose width increases from one end thereof toward the other end to connect the one end thereof to the first running path portion B1 and the other end thereof to the second running path portion B2. The first running path portion B1, the second running path portion B2, and the third running path portion B3 have bottom plates and walls 7 provided on both sides of the bottom plates in a standing manner, respectively, where running path widths are defined by the walls 7 at both sides of the bottom plates.

[0028] Incidentally, the first running path portion B1 includes a curved path portion B1a formed in a curved manner and a straight path portion B1b formed in a straight manner, and the third running path portion B3 includes a third running path portion B3a whose width increases in a clockwise direction and a third running path portion B3b whose width increases in a counterclockwise direction.

[0029] An endless running path B can be formed by combining the running path portions B1 to B3 (see Fig. 3B).

[0030] The second running path portion B2 and the third running path portion B3 are formed with mounting

portions 6 for mounting a running lane changing member C. The mounting portion 6 is protruded in a U-shaped manner from the wall 7 of the running path outwardly, and it is formed with a fitting hole 8 at the center thereof. The height of the mounting portion 6 is set to be lower than the height of the wall 7 of the running path.

[0031] As shown in Figs. 4A and 4B, and Figs. 4C and 4D, the running lane changing member C has a base stand 10 and an engagement plate 11 with an approximately triangular shape in a plan view formed on the base stand 10 so as to project therefrom. As the running lane changing member C, two kinds of running lane changing members, a first running lane changing member C1 (Figs. 4A and 4B) acting on a running toy A running on the endless running path B in a clockwise direction and a second running lane changing member C2 (Figs. 4C and 4D) acting on a running toy A running thereon in a counterclockwise direction, are provided.

[0032] Regarding the engagement plate 11 of the running lane changing member C, the engagement plate 11 of the first running lane changing member C1 acting on the running toy A running in the clockwise direction is set such that an engagement face 11a having a large inclination angle is positioned on the right side and an engagement face 11b having a small inclination angle is positioned on the left side (Figs. 4A and 4B), while the engagement plate 11 of the second running lane changing member C2 acting on the running toy A running in the counterclockwise direction is set such that an engagement face 11a having a large inclination angle is positioned on the left side and an engagement face 11b having a small inclination angle is positioned on the right side (Figs. 4C and 4D).

[0033] Incidentally, such a configuration can be adopted that the running lane changing member C1 and the running lane changing member C2 are formed in the same shape by setting the inclination angles of the engagement face 11a and the engagement 11b of the engagement plate 11 to be the same.

[0034] The height of the base stand 10 is the same as that of the wall 7 of the running path, a recessed portion 12 is formed from a bottom face of the base stand 10 in a U shape, and a fitting shaft 13 is formed at the center of the recessed portion 12 so as to project downwardly. Thus, when the fitting shaft 13 is fitted in the fitting hole 8 of the mounting portion 6, a distal end of the engagement plate 11 projects above the wall 7 of the running path to contact the projecting member 3 of the running toy A that is running, as shown in Fig. 5A.

[0035] When the engagement plate 11 is the engagement plate of the first running lane changing member C1 acting on a running toy A running in a clockwise direction, the projecting member 3 of the running toy A running in the clockwise direction contacts the engagement face 11a having the large inclination angle, and an impact due to the contact is large, so that the running toy A is flipped outwardly and the running lane thereof is changed such that the running toy A hits against the outside wall 7 of

the second running path portion B2, as shown in Fig. 5A. On the other hand, as shown in Fig. 5B, the projecting member 3 of the running toy A running in the counterclockwise direction contacts the engagement face 11b having the small inclination angle but an impact due to the contact is small, so that the running toy A can proceed into the first running path portion B1 smoothly.

[0036] Incidentally, even if the inclination angles of the engagement face 11a and the engagement face 11b of the engagement plate 11 are set to be the same angle, when the running toy A proceeds from the second running path portion B2 into the first running path portion B1, the running toy A is forced to change its running lane due to contact with the engagement plate 11 but the running toy A is guided by the outside wall 7 of the first running path portion B1 so that the running toy A can be caused to proceed into the first running path portion B1.

[0037] Next, a manner of use of the running toy system with the above-mentioned configuration will be explained.

[0038] A case shown in Fig. 6 where the first running lane changing member C1 is attached to one of the third running path portions B3 (B3a) whose width increases in the clockwise direction and the second running lane changing member C2 is attached to one of the third running path portions B3 (B3b) whose width increases in the counterclockwise direction, respectively, and the running toy Aa is caused to run in the clockwise direction and the running toy Ab is caused to run in the counterclockwise direction, will be explained.

[0039] As shown in Fig. 7, when the running toy Aa proceeds from the first running path portion B1 positioned on the right side into the second running path portion B2 via the third running path portion B3a and the running toy Ab proceeds from the first running path portion B1 positioned on the left side into the second running path portion B2 via the third running path portion B3b approximately at the same timing, since the running lane changing member is not attached to the third running path portion B3b, the running toy Ab proceeding from the first running path portion B1 on the left side into the second running path portion B2 advances along the inner peripheral wall 7a of the second running path portion B2 without being subjected to a lane change. On the other hand, since the running lane changing member C1 is attached to the third running path portion B3a, the projecting member 3 of the running toy Aa proceeding from the first running path portion B1 on the right side into the second running path portion B2 via the third running path portion B3a contacts the engagement face 11a of the engagement plate 11 of the running lane changing member C1 having the large inclination angle (see Fig. 5A), the running toy Aa is flipped outwardly by an impact due to the contact and the lane of the running toy Aa is forcibly changed so that the running toy Aa advances along the outer peripheral side wall 7b of the second running path portion B2. Thus, two running toys Aa and Ab can go by each other without contacting each other.

[0040] As shown in Fig. 8, however, in a case where two running toys Aa and Ab pass through the second running portions B2 positioned on the opposite sides approximately simultaneously, the two running toys Aa and Ab proceed into the first running path portion B1 approximately simultaneously, so that they cannot go by each other, which results in a frontal collision. At this time, one running toy of the running toys Aa and Ab is flipped out by the momentum of the other running toy to jump out from the running path B.

[0041] As described above, when two running toys A are caused to run on the running path B in directions opposite to each other, a case where they can go by each other and a case where they cannot go by each other to crash head-on with each other occur due to a difference between the running speeds of the running toys A, running start positions thereof, or the like, so that a running toy system based upon a novel idea, which can provide users or players with a new type of enjoyment that cannot be obtained in the conventional running toy system wherein running toys run on the running path to go around while simply competing as to the fastest one thereof, can be established.

[0042] Incidentally, in the above-mentioned running toy system, the running lane changing member C may be attached so as to act on only the running toy with the projecting member 3 protruded in a state that the projecting member 3 of one running toy (for example, the running toy Ab running in the counterclockwise direction) is rotated inside so as not to project outwardly and the projecting member 3 of the other running toy (for example, the running toy Aa running in the clockwise direction) is caused to project. When such a setting is adopted, as shown in Fig. 9, the running toy Aa running in the clockwise direction can run on the lane of the running path B positioned on the outer peripheral side and the running toy Ab running in the counterclockwise direction can run on the lane of the running path B positioned on the inner peripheral side so that one running toy can be caused to change its running lane without performing a remote-control operation and the other running toy can be caused to run without changing its running lane, and as shown in Fig. 10, a place where a running lane change should be performed can be changed by changing the mounting position of the running lane changing member C (C1) (for example, the second running path portion B2) and a running state of the running toys A can be changed according to selection of the running lane changing member C or whether or not the projecting member 3 is caused to project, so that a running toy system wherein a player(s) or a user(s) can enjoy novel running toy playing can be provided.

Claims

1. A running toy system comprising:

a running toy (A);
a running path (B) on which the running toy (A) runs, the running path (B) including a first running path portion (B1) with a running path width allowing running of one running toy, a second running path portion (B2) with a wide running path width allowing parallel running of at least two running toys, and a third running path portion (B3) whose width increase from one end thereof toward the other end to connect the one end thereof to the first running path portion (B1) and the other end thereof to the second running path portion (B2);
the running toy (A) including a projecting member (3) adapted to project laterally from a toy main body (2) thereof; and
a running lane changing member (C) provided on a running path portion of one or both of the second running path portion (B2) and the third running path portion (B3) for forcibly changing a running lane of the running toy (A),
wherein when the projecting member (3) of the running toy (A) is engaged with the running lane changing member (C) at a running time of the running toy (A), the running toy (A) changes a running lane thereof in a direction so that the running toy separates from the running lane changing member (C).

2. The running toy system according to claim 1, wherein the running lane changing member (C) includes an engagement plate (11) which is formed to project in an approximately triangular shape toward the inside of the running path in a plan view so as to be engaged with the projecting member (3).
3. The running toy system according to claim 1 or 2, wherein the projecting member (3) is provided so as to be operable to retractably project from a side face of the toy main body (2).
4. The running toy system according to claim 1 or 2, wherein the second and third running path portions (B2, B3) are each provided thereon with a mounting portion (6) to which the running lane changing member (C) is detachably attached so that the running lane changing member (C) is attached to any of the mounting portions (6).
5. The running toy system according to claim 2, wherein the engagement plate (11) of the running lane changing member (C) has two engagement faces different in inclination angle to a running direction of the running toy (A).
6. The running toy system according to claim 1 or 2, wherein the first running path portion (B1), the second running path portion (B2), and the third running

path portion (B3) have bottom plates and side walls (7) provided at both sides of the bottom plates in a standing manner, respectively, a running path width is defined by the side walls (7) at both sides of the bottom plates, and the running path is formed in an endless manner by connecting the first running path portion (B1), the second running portion (B2), and the third running path portion (B3). 5

7. The running toy system according to claim 6, wherein the running toy (A) is configured to run to simply go straight ahead. 10

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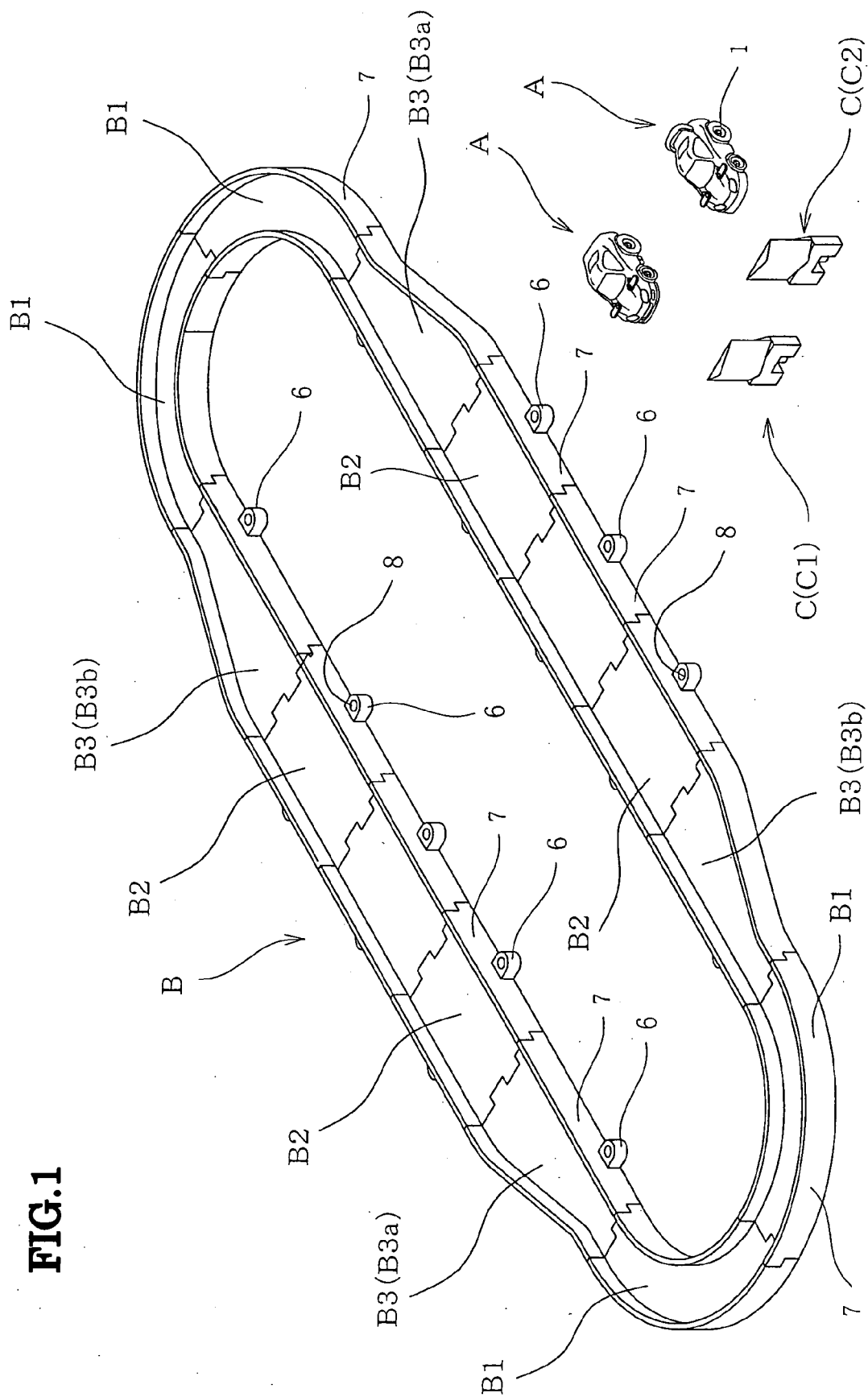


FIG.1

FIG.2A

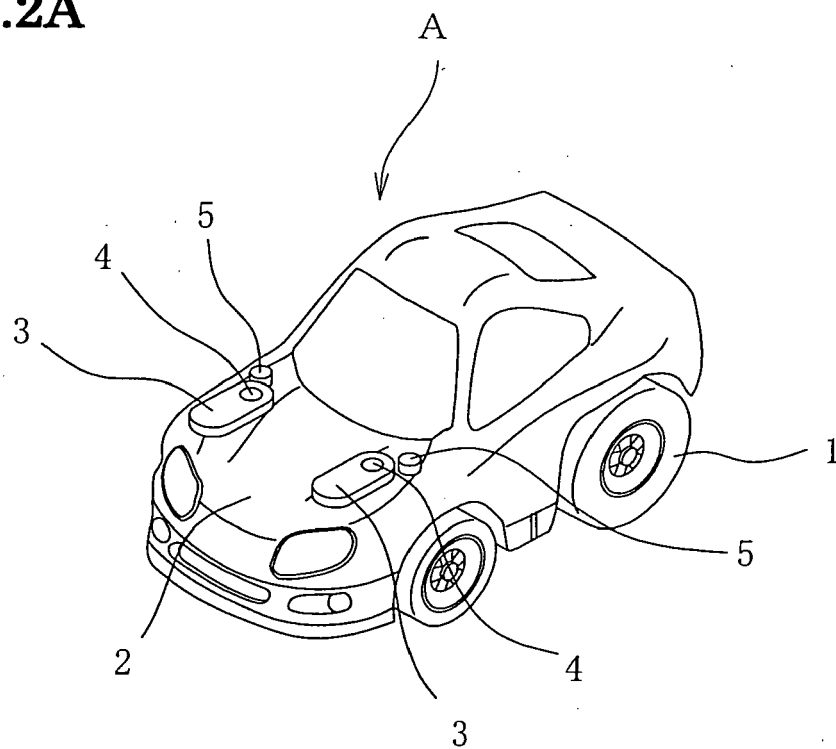


FIG.2B

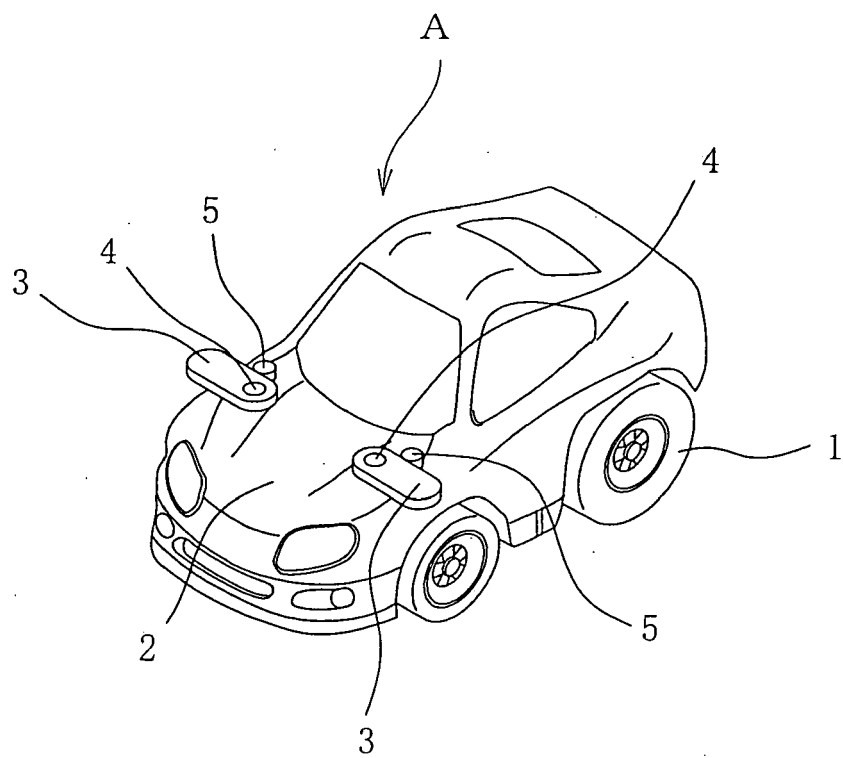


FIG.3A

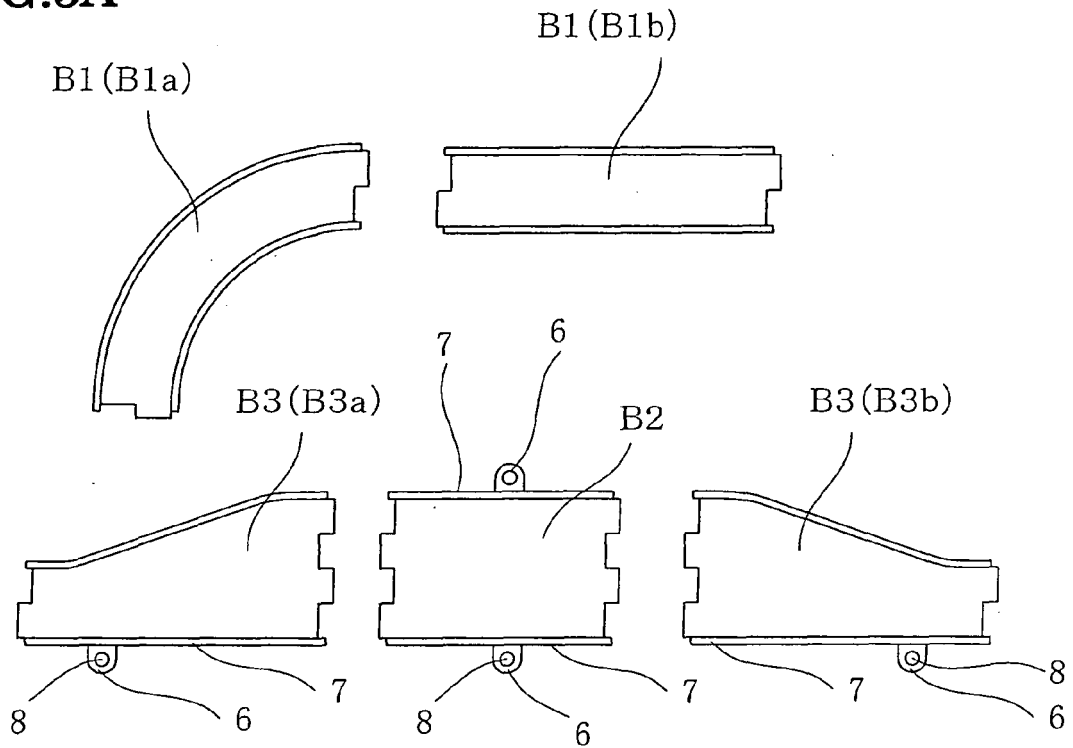


FIG.3B

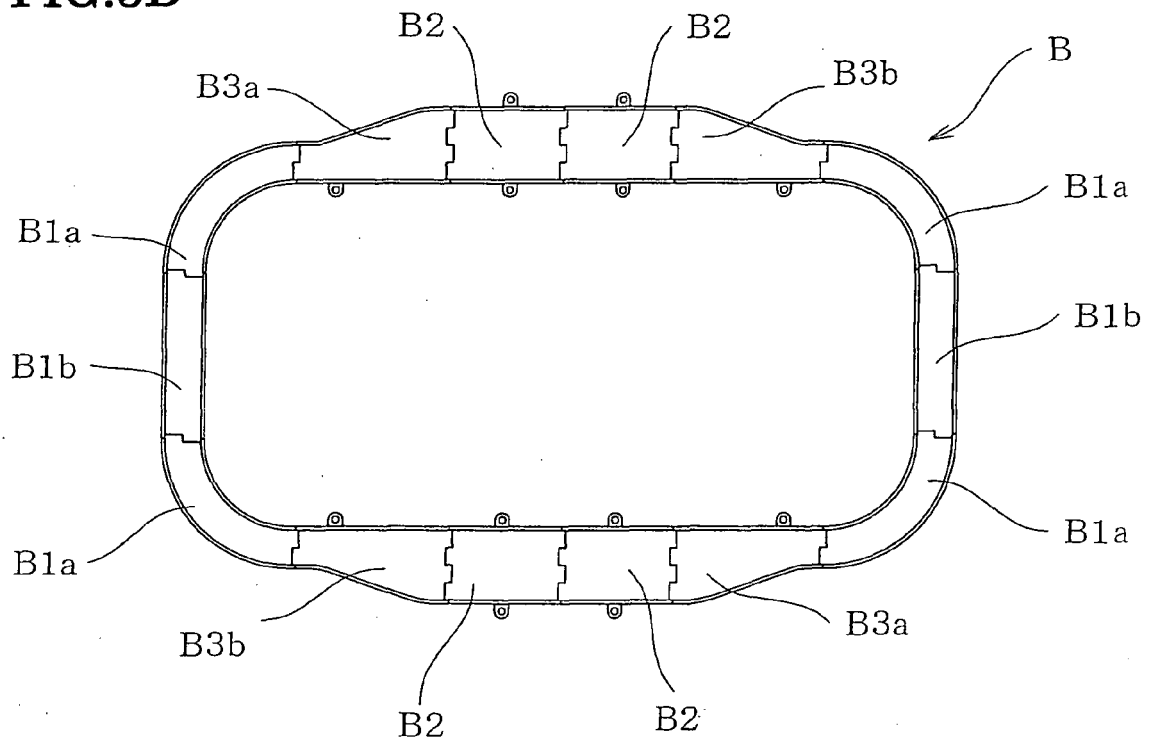


FIG.4A

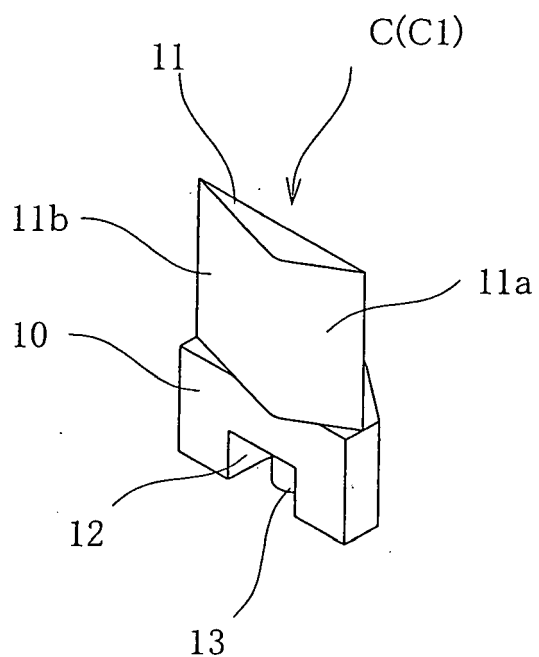


FIG.4B

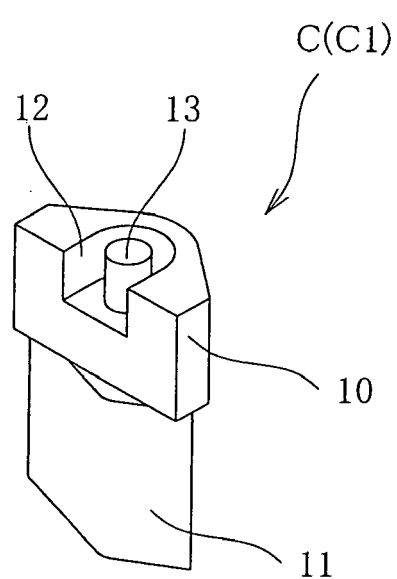


FIG.4C

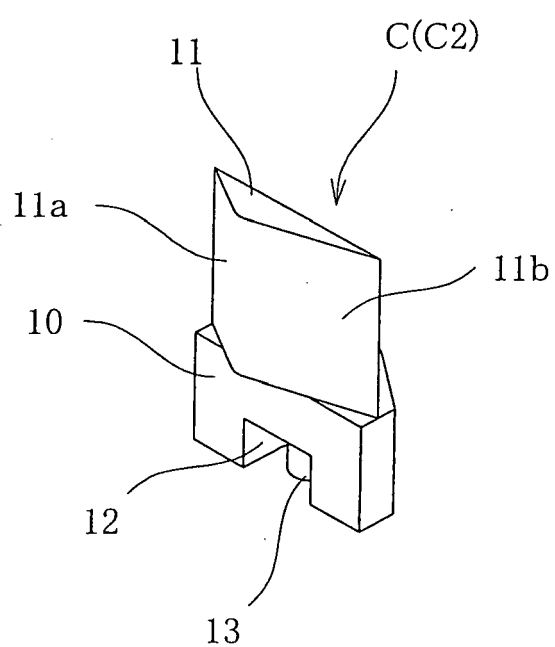


FIG.4D

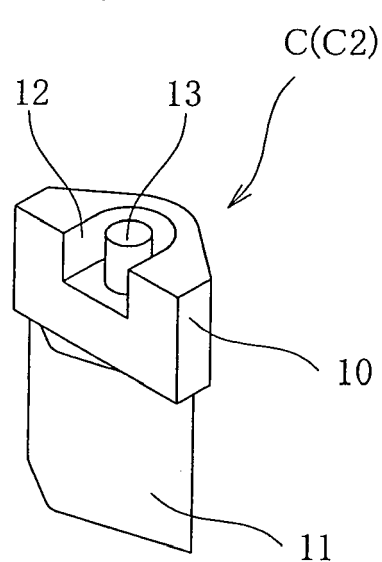


FIG.5A

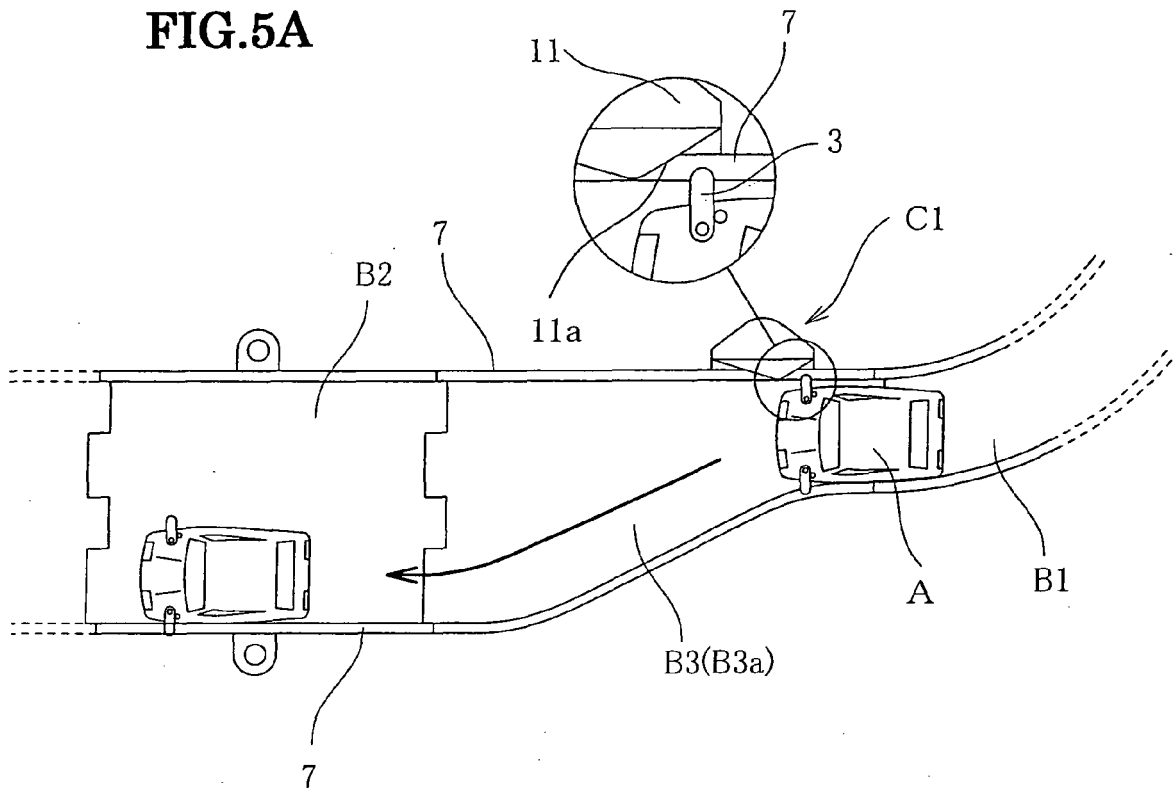
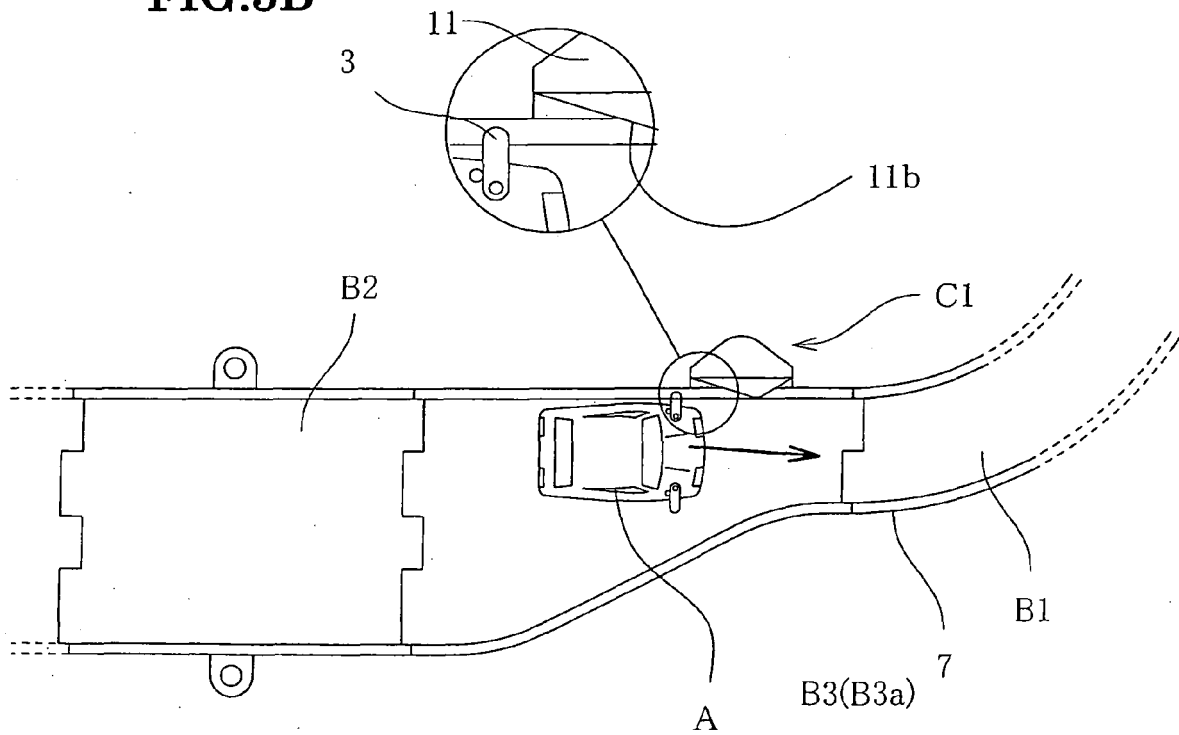


FIG.5B



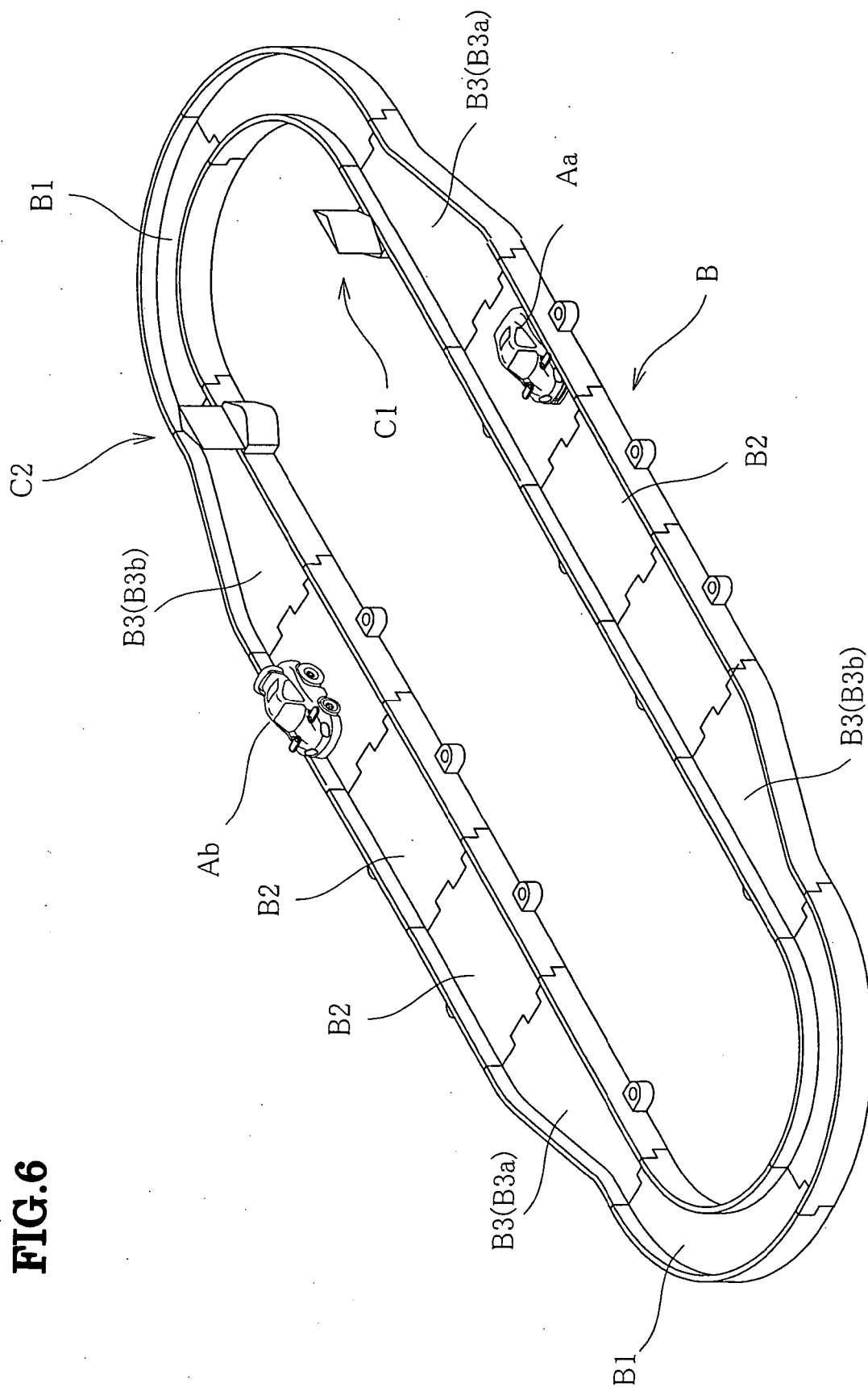


FIG. 6

FIG.7

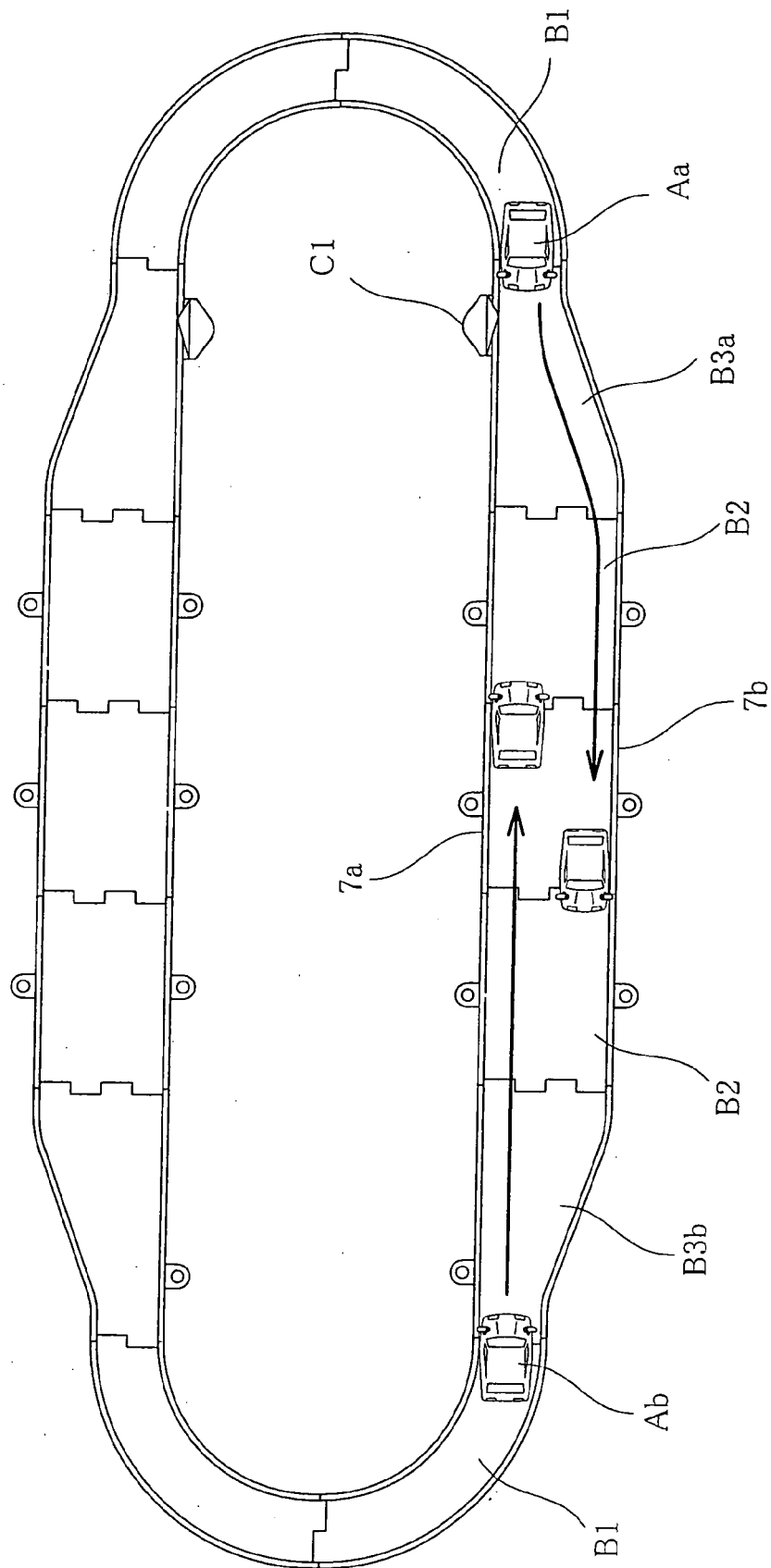


FIG.8

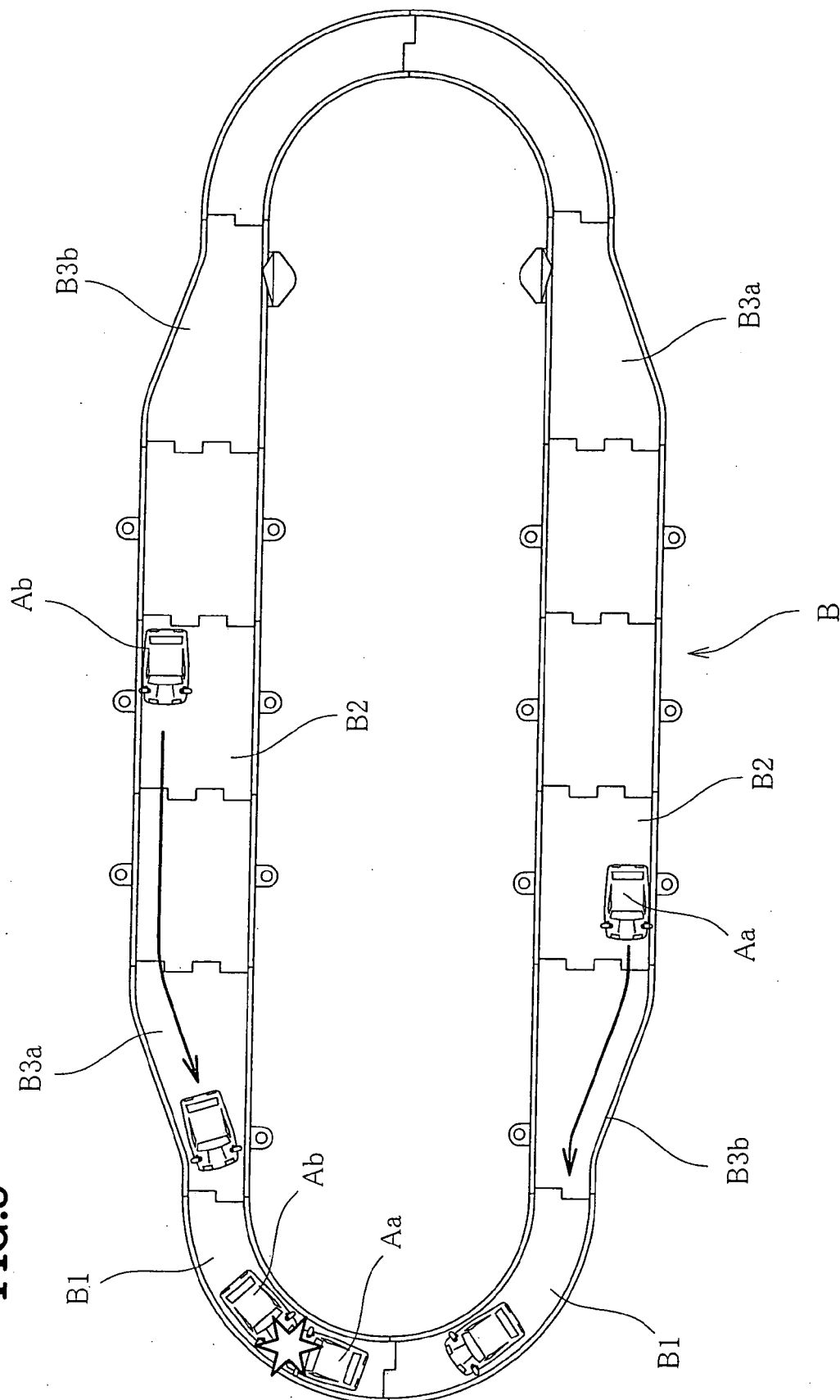


FIG.9

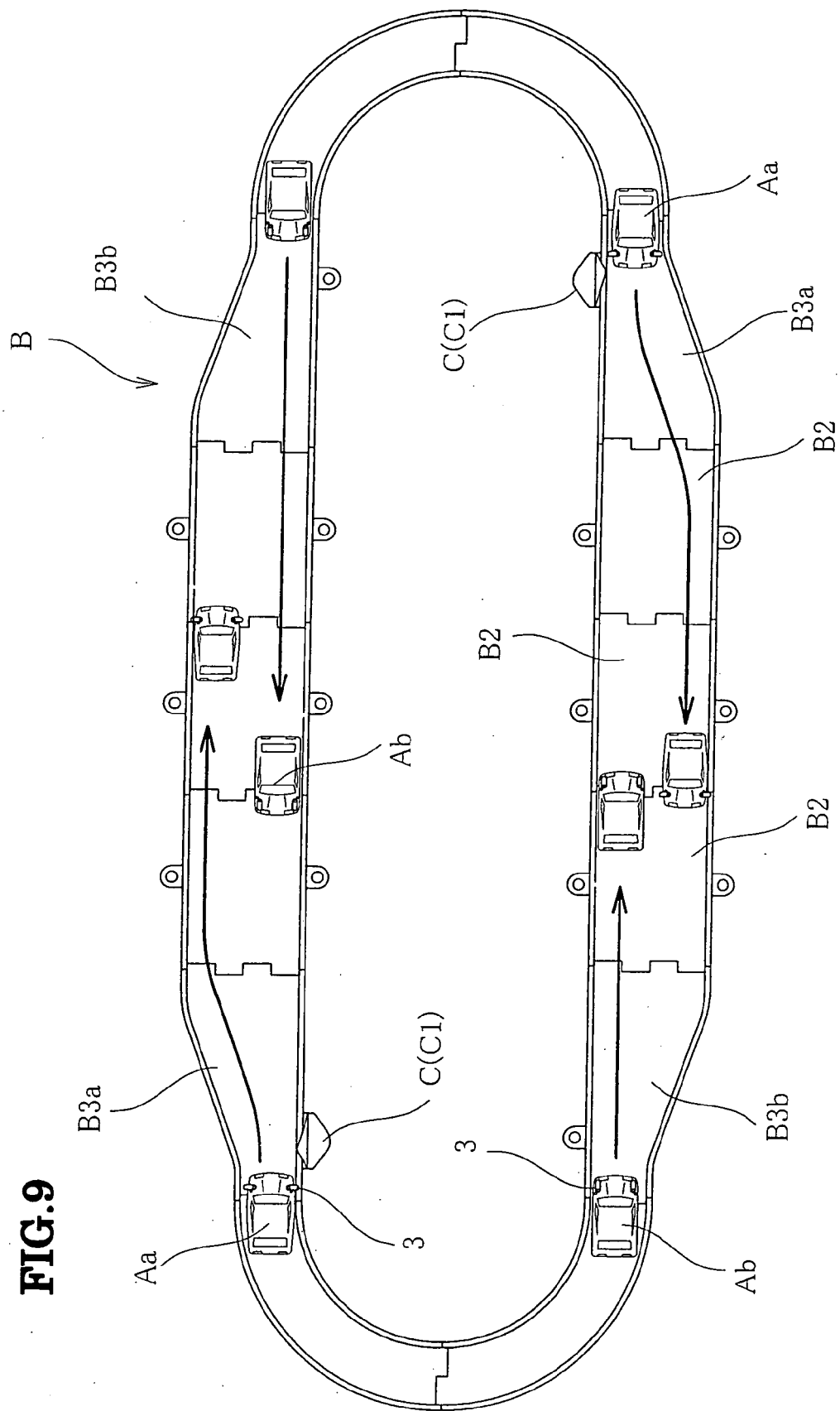
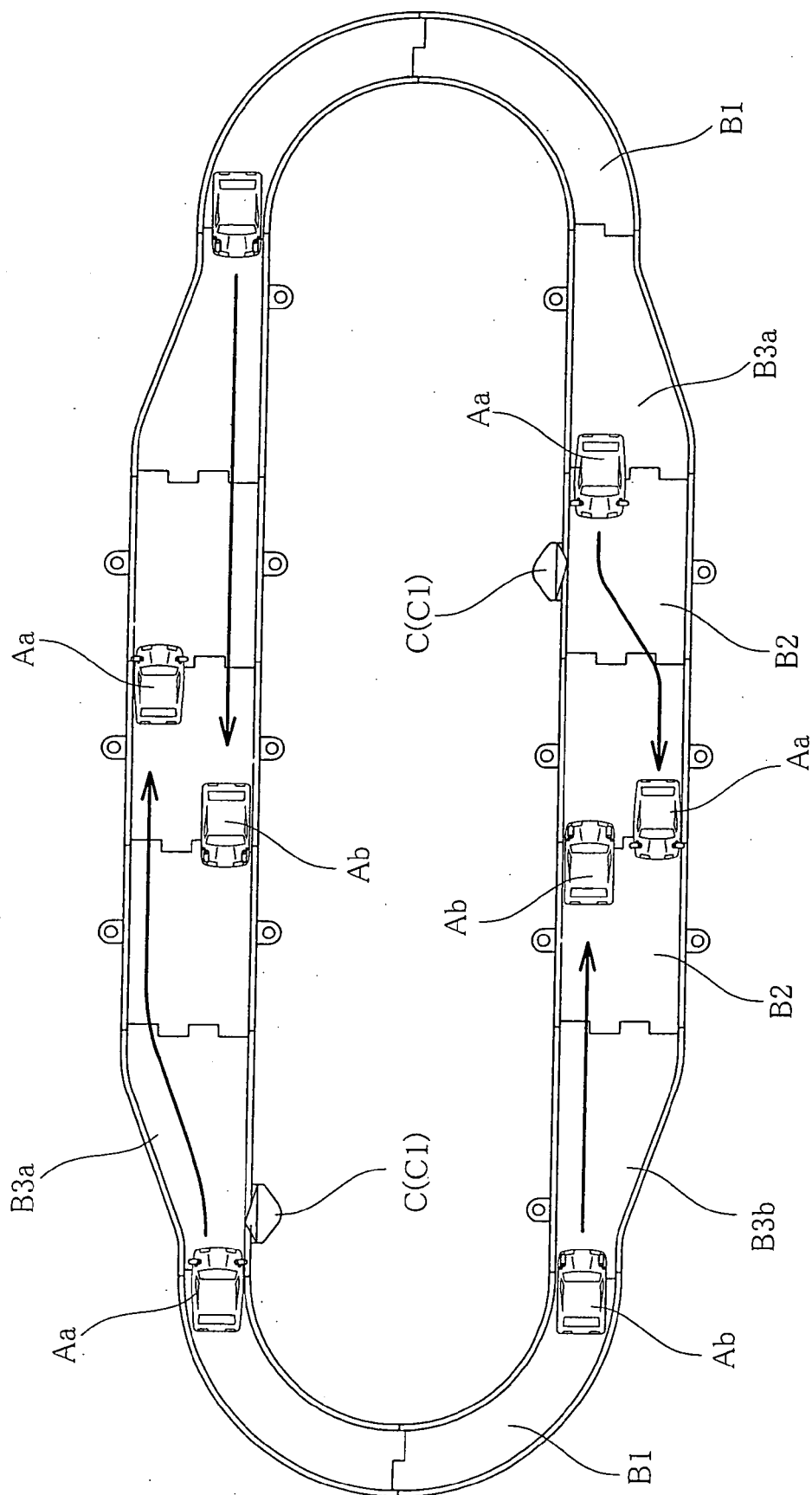


FIG.10





EUROPEAN SEARCH REPORT

Application Number
EP 08 25 3263

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	FR 1 443 081 A (TRANSOGRAM COMPANY) 24 June 1966 (1966-06-24) * page 3, right-hand column, line 6 - page 4, right-hand column, line 47; figures 1-6, 18 *	1, 6, 7	INV. A63H18/02 A63H18/06
A	----- WO 2007/056402 A (MATTEL INC [US]; HIPPELY KEITH [US]) 18 May 2007 (2007-05-18) * page 2, paragraph 12 - paragraph 13 * * page 4, paragraph 20 - page 5, paragraph 23; figures 1, 2 *	1, 2, 5-7	
A	----- US 3 797 404 A (BARLOW G ET AL) 19 March 1974 (1974-03-19) * column 4, line 4 - line 40; figure 1 *	1, 3	
A	----- GB 2 043 469 A (HASBRO INDUSTRIES INC) 8 October 1980 (1980-10-08) * page 2, left-hand column, line 18 - line 38 * * page 2, right-hand column, line 130 - page 3, left-hand column, line 12; figure 1 *	1	TECHNICAL FIELDS SEARCHED (IPC) A63H
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 21 April 2009	Examiner Bagarry, Damien
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.**

EP 08 25 3263

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21-04-2009

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REFERENCES CITED IN THE DESCRIPTION

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