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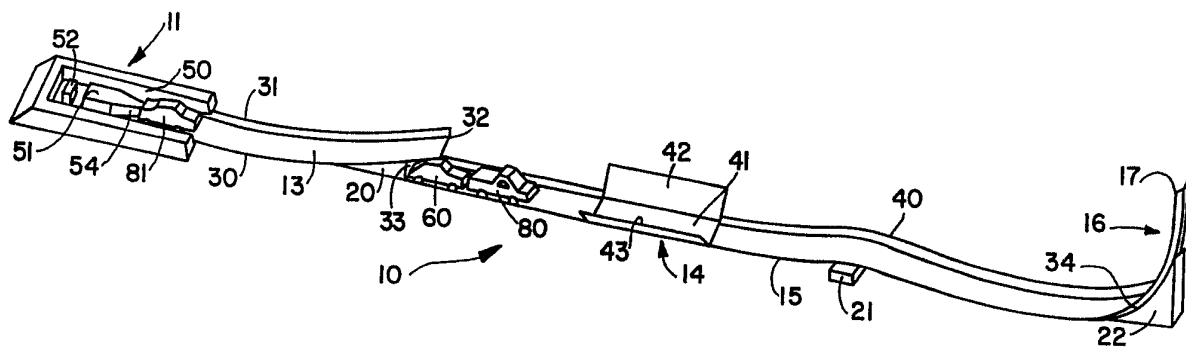
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(54) Title: MULTIPLE TOY VEHICLE JUMPSET



(57) Abstract

A multiple toy vehicle jumpset (10) includes a vehicle launcher (11) coupled to a vehicle track. The vehicle track defines a launch ramp (13) and vehicle catcher (14) as well as an upwardly curved return ramp portion (16). The inclination of the jump ramp (13) as well as other characteristics of the track configuration may be varied to provide different track characteristics. As each launched vehicle traverses the track, it is returned to a position beneath the ramp portion (13) of the track and successively launched vehicles must be launched so as to successively clear the accumulated vehicles (60, 80) with increasing skill.

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⁺ It is not yet known for which States of the former Soviet Union any designation of the Soviet Union has effect.

MULTIPLE TOY VEHICLE JUMPSET

SPECIFICATION

Field of the Invention

5 This invention relates generally to toy vehicle
playsets and particularly to those in which a vehicle
is launched and performs a jumping activity.

Background of the Invention

10 Through the years, a great variety of toy vehicles
playsets in many different forms have been provided to
give amusement, entertainment and developmental skills
to children of a broad variety of ages. One of the
most interesting and amusing types of toy vehicle
15 playsets are those which are often generally referred
to as jumpsets. Such playsets acquire their name from
the play feature in which a toy vehicle is launched or
otherwise caused to fly through the air for a brief
period of time.

20 While the structures used in providing such
jumpsets have been many and varied, all generally
include an elongated track usually having confining
edges on either side together with a toy vehicle
launching mechanism. In addition, means are provided
which introduce a ramp or other track portion or
25 configuration capable of performing the jump feature.
In their normal intended play, such jumpsets are
utilized by loading the toy vehicle into the launcher

and launching the toy vehicle down the track toward the ramp or similar structure. The velocity of the vehicle carries it over the ramp and causes it to "jump". To further enhance amusement and entertainment value, practitioners in the art generally attempt to include some additional amusement or entertainment factor beyond simply jumping the toy vehicle.

Some of the most entertaining and commercially successful types of toy vehicle jumpsets are those in which the user is called upon to exercise a skill factor which leads to a developmental activity. The design and fabrication of such toy vehicle jumpsets is subjected to a continuing need for evermore varied and interesting types of structures and play action. To meet this need, practitioners in the art have provided a wide variety of such toy vehicle playsets.

For example, U.S. Patent 4,715,843 issued to Ostendorff, et al. sets forth a TOY VEHICLE PLAYSET in which a roadway, a booster for impelling a vehicle along the roadway and a ramp are positioned to provide a path for the impelled vehicle to leap a predetermined distance. A catcher is positioned in the roadway to catch the jumping vehicle and a return portion of the roadway returns the vehicle toward the booster. An additional feature of the ramp provides a pivotal mechanism which allows the vehicle to pass another vehicle on the roadway in opposite directions.

U.S. Patent 3,621,602 issued to Barcus, et al. sets forth a TRACK MEANS COMBINED WITH SIMULATED STUNT HOOP FOR TOY VEHICLES in which a track includes a pair of oppositely facing upwardly sloped and downwardly sloped ramp portions. The upwardly sloped ramp portion

includes an annular ring having a center aperture
therein larger than the toy vehicle. The ring supports
a membrane having a plurality of open seams therein and
preferably formed of a resilient material. The object
5 of the stunt set is to propel the vehicle through the
membrane across the spacing between the two ramps and
down the downwardly sloped ramp.

U.S. Patent 1,431,398 issued to Hetzner sets forth
a TOY AMUSEMENT APPARATUS in which a track set includes
10 a first ramp having an elevated launching platform, a
downwardly extending slope and a somersaulting loop
terminating in an upwardly directed ramp. The track
set further includes a vehicle catching area and return
ramp which receives the launching toy vehicle and
15 returns it to the bottom of the elevated platform.

U.S. Patent 3,814,021 issued to McHenry sets forth
a SPIRAL JUMP STUNT APPARATUS in which an upwardly
sloped launching ramp and downwardly sloped receiving
ramp are positioned in a spaced apart relationship
20 defining a gap therebetween. The launching ramp is
transversely slanted to impart both upward motion and
axial rotation to the launched vehicle. The receiving
ramp is similarly angled to provide an angled receiving
surface for the launched toy vehicle.

25 U.S. Patent 1,544,555 issued to Chase sets forth a
TOY SKI JUMPER in which a multiply curved launch ramp
is paired with a downwardly sloped receiving ramp and
is used to launch and receive a simulated ski jumper.

U.S. Patent 1,695,310 issued to Wustendorfer sets
30 forth a SOMERSAULTING TOY in which a downwardly sloped
launch ramp and elevated platform are paired with a

downwardly sloped receiving ramp. The launching end of the downwardly sloped ramp is curved upwardly to impart a somersault to the simulated skier rolling down the ramp. Additional means are provided in the form of a
5 spring loaded lever which further launches the simulated skier.

U.S. Patent 3,204,574 issued to Frisbie, et al. sets forth a JUMP RAMP for use in connection with a toy vehicle track set. The ramp includes an upwardly
10 sloped launching ramp and a downwardly sloped receiving ramp. The ramp is utilized to form the crossing overpass of a figure eight track configuration.

U.S. Patent 3,735,923 issued to Brigham, et al. sets forth a LOOPED TRAFFIC ACCESSORY in which a toy
15 vehicle track set includes a launching platform which may be secured to an elevated surface such as a table or the like. The playset further includes an elongated pair of vehicle tracks together with somersaulting loop portions which conduct the toy vehicles through a rapid
20 loop during their passage from the elevated launcher to the track end.

U.S. Patent 3,858,875 issued to Nemeth, et al. sets forth a GAP JUMPING TOY VEHICLE GAME in which a
25 toy vehicle track is formed in a closed oval having banked curved ends and including a launching mechanism. A pair of oppositely sloped jumping and receiving ramps are formed upon the track and a paddle wheel type booster is used to accelerate passing vehicles along the track.

30 U.S. Patent 4,094,089 issued to Sano sets forth an JUMPING RAIL which is configured to be positioned

within a toy vehicle trackway. The jumping rail features a striking member which extends into the vehicle travel path which when struck by a toy vehicle cause the jumping rail to pivot upwardly and launch the vehicle into the air.

U.S. Patent 4,383,688 issued to Prehodka sets forth an OBSTACLE FOR TOY VEHICLE TRACK SET in which a pivotable vane is positioned between lanes of a multilaned track. The vane is actuated by a passing toy vehicle to obstruct one of the lanes after the vehicle has passed. The pursuing vehicle on the multilane track must then avoid the obstacle or be launched into an undesired jump and crash if it fails to avoid the obstacle.

U.S. Patent 4,513,966 issued to Mucaro, et al. sets forth a VEHICLE JUMP FOR A TOY VEHICLE GAME in which a pair of track portions form a track crossing segment having respective launching and receiving ramps thereon.

U.S. Patent 4,519,789 issued to Halford sets forth a COMBINED VEHICLE JUMP MEANS AND TOY VEHICLE WITH SIMULATED STUNT HOOP in which a toy vehicle jumpset includes an upwardly extending launch ramp and downwardly extending receiving ramp for a toy vehicle. A stunt hoop formed of an annular loop and simulated surrounding fire and flames is configured to be interposed between the two ramps such that the vehicle when launched passes through the center aperture of the stunt loop.

U.S. Patent 4,558,867 issued to Hippely sets forth a TOY VEHICLE TRACKWAY SET in which a toy vehicle track

terminates in a vertical somersault loop followed by a horizontal inclined looping ramp which terminates at the center portion of the somersault loop. A catching basket is movable for support near the multiple loop
5 feature. The toy vehicle is launched down the track and passes through the somersault loop and is accelerated upwardly through the inclined horizontal ramp portion to be ultimately launched through the center portion of the somersault loop.

10 While the foregoing prior art vehicle playsets and jumpsets have provided substantial entertainment and amusement, the continuing need for evermore varied and different toy vehicle playsets remains.

Summary of the Invention

15 Accordingly, it is a general object of the present invention to provide an improved toy vehicle playset. It is a more particular object of the present invention to provide an improved toy vehicle playset having an interesting jump feature. It is a still more
20 particular object of the present invention to provide an improved toy vehicle playset having a jump feature which produces a developmental activity and exercises the judgment and skill of the child user.

In accordance with the present invention, there is
25 provided for use in combination with a plurality of toy vehicles, a toy vehicle jumpset comprises: a launcher for receiving a toy vehicle and applying an accelerating force thereto; a track having an upwardly directed launch ramp portion, a receiving portion and a
30 return ramp portion, the launch ramp, the receiving portion and the return ramp portion cooperating to form

a travel and return path for a toy vehicle; and stop
means proximate the launch ramp for returning
successive launched and returned toy vehicles as
increasing obstructions of the travel and return path
5 as they accumulate.

Brief Description of the Drawings

The features of the present invention, which are
believed to be novel, are set forth with particularity
in the appended claims. The invention, together with
10 further objects and advantages thereof, may best be
understood by reference to the following description
taken in conjunction with the accompanying drawings, in
the several figures of which like reference numerals
identify like elements and in which:

15 Figure 1 sets forth a perspective view of a
multiple toy vehicle jumpset constructed in accordance
with the present invention;

Figure 2 sets forth a perspective view of a
multiple toy vehicle jumpset constructed in accordance
20 with the present invention having launched and received
a first car;

Figure 3 sets forth a perspective view of a multiple toy vehicle jumpset constructed in accordance with the present invention having launched and received a second vehicle;

5 Figure 4 sets forth a side elevation view of a portion of the multiple toy vehicle jumpset set forth in Figures 1 through 3; and

 Figure 5 sets forth alternate embodiment of the launcher mechanism of the present invention multiple
10 toy vehicle jumpset.

Description of the Preferred Embodiments

Figure 1 sets forth a perspective view of a multiple toy vehicle jumpset constructed in accordance with the present invention and generally referenced by
15 numeral 10. Jumpset 10 includes a vehicle launcher 11, a track segment 12, a ramp 13, a catcher 14, a track segment 15 and a return ramp 16. Ramp 16, track segments 12 and 15, as well as return ramp 16, are formed of a flexible track material having a planar
20 roadway surface and upwardly extending side walls 30 and 31. In its preferred form, track segments 12 and 15, ramp 13 and return ramp 16 are formed of substantially similar configurations. Ramp 13 overlaps track segment 12 and a generally wedge-shaped ramp
25 support 20 is interposed between ramp 13 and track segment 12 to provide the upwardly directed incline of ramp 13. In accordance with the invention, support 20 further defines a vertical stop surface 23 which is preferably located at or near end portion 32 of ramp
30 13. Catcher 14 is supported upon track segment 15 within side walls 30 and 31 and defines a generally

planar center portion 41 and a pair of inclined upwardly extending planar sides 42 and 43. A support 21 is positioned beneath track segment 15 between catcher 14 and return ramp 16 to raise a portion of track segment 15 to form a bump portion 40. A generally wedge-shaped support 22 defines an upwardly curved surface 34 and is positioned beneath return ramp 16 to support a vertically extending end portion 17 thereof.

Thus, the above-described track components form a substantially continuous track member having confining sides and including a ramp 13 coupled to launcher 11, a straight segment 15 supporting an inclined upwardly facing catcher 14 and defining a bump 40 and an upwardly curved return ramp 16.

Launcher 11 is secured to ramp 13 by appropriate attachment means or by simple overlap and defines a generally rectangular launch bay 50 having supported therein a movable shuttle 51. Shuttle 51 is slidably supported within launch bay 50 in accordance with conventional fabrication techniques. A spring 53 is coupled to shuttle 51 and launcher 11 and provides a compressive spring force which opposes the motion of shuttle 51 in the direction indicated by arrow 55. A trigger button 52 is coupled to a conventional trigger latch mechanism which cooperates with shuttle 51 in accordance with conventional fabrication techniques to lock shuttle 51 in a rearward position in which spring 53 is compressed.

Thus, in operation, shuttle 51 is moved into bay 50 in the direction indicated by arrow 55 compressing spring 53. Trigger 52 and the trigger mechanism

associated therewith locks shuttle 51 in the rearward position. Figure 2 sets forth the locked or cocked position of shuttle 51 within launcher 11. Shuttle 51 defines a generally vertical end surface 54. A toy vehicle 60 configured to roll easily within the track portions of jumpset 10 may then be positioned within launch bay 50 against end 54 of shuttle 51. Figure 2 sets forth the position of a similar vehicle within launcher 11 prior to launching. Thereafter, vehicle 60 may be launched by depressing trigger 52 which releases shuttle 51 at which time the energy stored within spring 53 accelerates shuttle 51 and car 60 rapidly away from launcher 11 toward ramp 13 in the direction indicated by arrow 56. Figure 1 sets forth the position of vehicle 60 just after the above-described launch. Thus, vehicle 60 is shown in Figure 1 approaching ramp 13 having a velocity in the direction indicated by arrow 61. As vehicle 60 continues up ramp 13 and beyond end portion 32 thereof, vehicle 60 becomes airborne in the position shown in dashed line representation 62 having an upwardly directed velocity 63. Thereafter, vehicle 60 undergoes a gravity controlled "flight" and is received within catcher 14. During its descent toward catcher 14, inclined sides 42 serve to direct vehicle 60 downwardly toward center portion 41. After being received within catcher 14, the forward momentum of vehicle 60 continues to propel vehicle 60 upon track segment 15 to the position shown in dashed line representation 64. At such time, vehicle 60 has a velocity in the direction indicated by arrow 65. The momentum of vehicle 60 carries it over bump 40 of track segment 15 to the dashed line position 66 having a velocity in the direction indicated by arrow 67. Afterwhich, vehicle 60 assumes the position shown in Figure 2.

Figure 2 sets forth jumpset 10 as configured above showing vehicle 60 having moved from the dashed line position 66 in Figure 1 to its maximum upwardly directed travel toward end 17 of return ramp 16. At the position shown in Figure 2, the upward velocity of vehicle 60 in the direction indicated by arrow 68 is reduced to zero and the gravity force upon vehicle 60 overcomes its momentum and accelerates vehicle 60 downwardly upon return ramp 16 in the direction indicated by arrow 69. Thereafter, vehicle 60 moves to the position shown in dashed line representation 70 and acquires a velocity in the direction indicated by arrow 71. Thereafter, vehicle 60 returns along track segment 15 over bump 40 and through catcher 14 in the direction indicated by arrow 73. Finally, vehicle 60 encounters stop surface 33 of ramp support 20 and is brought to rest in the position shown in dashed line representation 72. Concurrently, as vehicle 60 undergoes the return travel described, a second toy vehicle 80 is positioned within launcher 11 and shuttle 51 is again moved in the direction indicated by arrow 55 to load or cock launcher 11. Thus, with vehicle 80 in the position shown and with vehicle 60 in the position shown in dashed line representation 72, pressing of trigger 52 launches vehicle 80 in the manner described above for vehicle 60. Thereafter, vehicle 80 traverses the track portions of jumpset 10 and ultimately returns in the manner described above for vehicle 60 until it abuts vehicle 60 and jumpset 10 assumes the position shown in Figure 3.

Figure 3 shows jumpset 10 having launched and returned vehicle 80 and showing vehicle 80 now resting in line with previously launched and returned vehicle 60. A third vehicle 81 is now loaded within launcher

11 and shuttle 51 is again cocked to its loaded position in preparation for launching vehicle 81. In accordance with the invention, the accumulation of previously launched and returned vehicles 60 and 80
5 beneath ramp 13 presents an accumulating obstacle and challenge and increased difficulty factor for subsequently launched vehicles. Thus, with simultaneous reference to Figures 1 through 3, it will be apparent that the precision of launch necessary to
10 successfully launch and return vehicle 80 is somewhat greater than for vehicle 60 and further that the factors influencing vehicle 81 have been further complicated by the presence of vehicles 60 and 80 beneath ramp 13.

15 It will be apparent to those skilled in the art that the operation of the present invention jumpset continues as successive vehicles are launched in the manner described above and accumulate upon track segment 15 beneath ramp 13. To accommodate the
20 additional jump characteristics and precision required as successive vehicles are so accumulated, the characteristics of jumpset 10 may be varied to accommodate the challenge presented. For example, ramp support 20 may be movable with respect to ramp 13 and
25 track segment 15 to alter the incline and extension of ramp 13. Further the position of catcher 14 may be moved upon track segment 15 to accommodate different trajectories of launched vehicles. Support 21 and support 22 may be also movable with respect to track
30 segment 15 to further change the configuration of track for jumpset 10.

Figure 4 sets forth a side view of the launcher portion of the embodiment of the present invention

shown in Figures 1 through 3. Launcher 11 includes an elongated launcher bay 50 defining a linear track portion 57 therein. Launcher 11 further defines an aperture 88 and is coupled to ramp 13. A trigger button 52 defines an outwardly extending flange 87 and extends upwardly through aperture 88. A spring 85 is captivated upon a spring guide 86 and exerts a spring force upwardly against trigger button 52. Trigger 52 further includes a forwardly extending hook portion 90.

10 A shuttle 51 defines an end portion 54, a downwardly extending tab 49 and a hook 91. Hook 91 engages hook 90 of trigger button 52 to form a convenient releasable latch for shuttle 51. Launcher 11 further defines a spring stop 48 which receives a coil spring 53. Spring 53 is captivated between stop 15 48 and tab 49.

Figure 4 shows the configuration of launcher 11 in the loaded or cocked position in which shuttle 51 has been forced rearwardly in the direction indicated by 20 arrow 92 causing spring 53 to be compressed between tab 49 and stop 48. In the position shown in Figure 4, hook 91 of shuttle 51 has engaged and latched with hook 90 of trigger button 52. In this position, a vehicle may be positioned against end 54 of shuttle 51 in the 25 manner shown for vehicle 80 in Figure 2. Thereafter, pressing trigger button 52 downwardly in the direction indicated by arrow 89, releases hook 90 from hook 91 afterwhich the spring force stored in spring 53 accelerates shuttle 51 in the direction indicated by 30 arrow 93. The rapid acceleration of shuttle 51 imparts an accelerating force to a toy vehicle placed against end 54. Once shuttle 51 reaches the end of its travel, it is retained within launcher bay 50 while the

cooperating vehicle is launched across ramp 13 in the manner described above.

It will be apparent to those skilled in the art that the above-described jumpset provides substantial entertainment and considerable skill may be exercised in the developmental activities associated with reconfiguring the track and ramp portions of the present invention jumpset to accommodate the accumulating previously launched and return vehicles. However, it has been found that additional skill may be exercised and additional developmental activity may be carried forward if launcher 11 is replaced by a more flexible type launcher which permits a varied amount of launching force to be imparted to the toy vehicle. Thus, Figure 5 sets forth one such launcher which if used in place of launcher 11 in jumpset 10 in the manner shown in Figure 1 through 3 permits the exercise of still another skill aspect by the use of a varied launching force. The launcher shown in Figure 5 is representative of the variety of variable force launchers known in the art and is shown in great detail in U.S. Patent 4,605,230 entitled TOY VEHICLE GAME WITH LAUNCHER AND RETURN MEANS and issued to Halford et al. Accordingly, Figure 5 sets forth a launcher 100 which includes a housing 101 defining therein a chamber 103 and a passage 104. A laterally extending cylinder passage 105 communicates with passage 104 and supports a slidable piston 106. The latter defines an outwardly extending end portion 107. A resilient bellows 111 is coupled to piston 102 and urges it upwardly and to the lower surface of chamber 103

of housing 101. In operation, with piston 106 in the position shown in solid line representation, piston 102 is urged upwardly to the position shown by the resilient force of bellows 111. Thereafter, a toy
5 vehicle is placed within launcher 11 in contact with end 107 of piston 106. The vehicle launch is accomplished by rapidly forcing piston 102 downwardly in the direction indicated by arrow 108 which forces air from chamber 103 through passage 104 and into
10 cylinder 105. The force of air thus transferred is applied to piston 106 and accelerates piston 106 in the direction indicated by arrow 109 to the dashed line extended position shown. This rapid acceleration and extension of piston 106 launches the toy vehicle toward
15 ramp 13 in the direction indicated by arrow 110.

As mentioned above, launcher 100 is representative of the general type of launcher which produces a launching force which varies in response to the applied force of the user. Thus, the harder and more abruptly
20 piston 102 is forced downwardly, the greater the launching force applied by piston 106. It will be apparent to those skilled in the art that a variety of variable force launching mechanisms may be used in place of launcher 11 to provide this additional skill
25 factor for the present invention playset. However, in accordance with an important aspect of the present invention, the use of such a variable force launcher in combination with the remainder of jumpset 10 facilitates the exercise of an additional touch or
30 skill factor.

What has been shown is a multiple toy vehicle jumpset which provides the action and skill features associated with the accumulation of additional vehicles

to jump. The jumpset shown is capable of multiple configurations and thus a variety of challenges in association with its operation may be presented to the user.

5 While particular embodiments of the invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the invention in its broader aspects. Therefore the aim in the appended
10 claims is to cover all such changes and modifications as fall within the true spirit and scope of the invention.

THAT WHICH IS CLAIMED IS:

1. For use in combination with a plurality of toy vehicles, a toy vehicle jumpset comprising:

5 a launcher for receiving a toy vehicle and applying an accelerating force thereto;

10 a track having an upwardly directed launch ramp portion, a receiving portion and a return ramp portion, said launch ramp, said receiving portion and said return ramp portion cooperating to form a travel and return path for a toy vehicle; and

stop means proximate said launch ramp for returning successive launched and returned toy vehicles as increasing obstructions of the travel and return path as they accumulate.

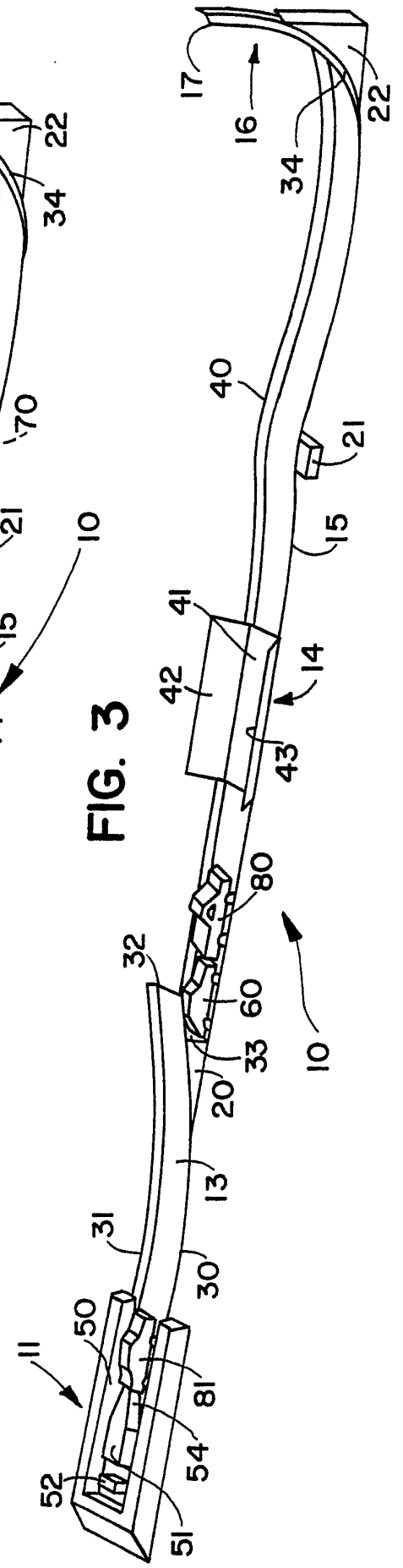
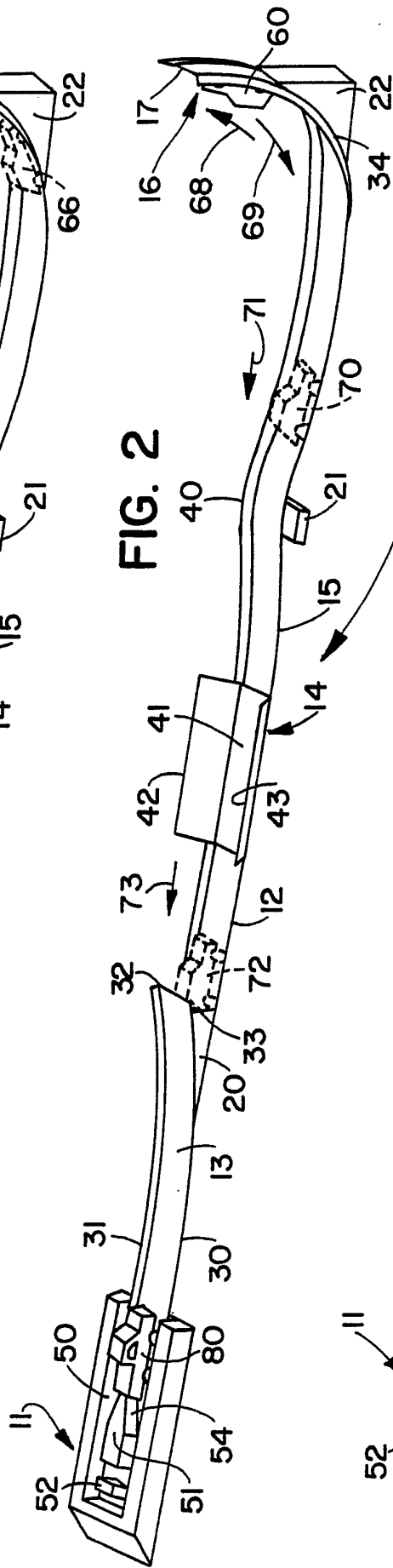
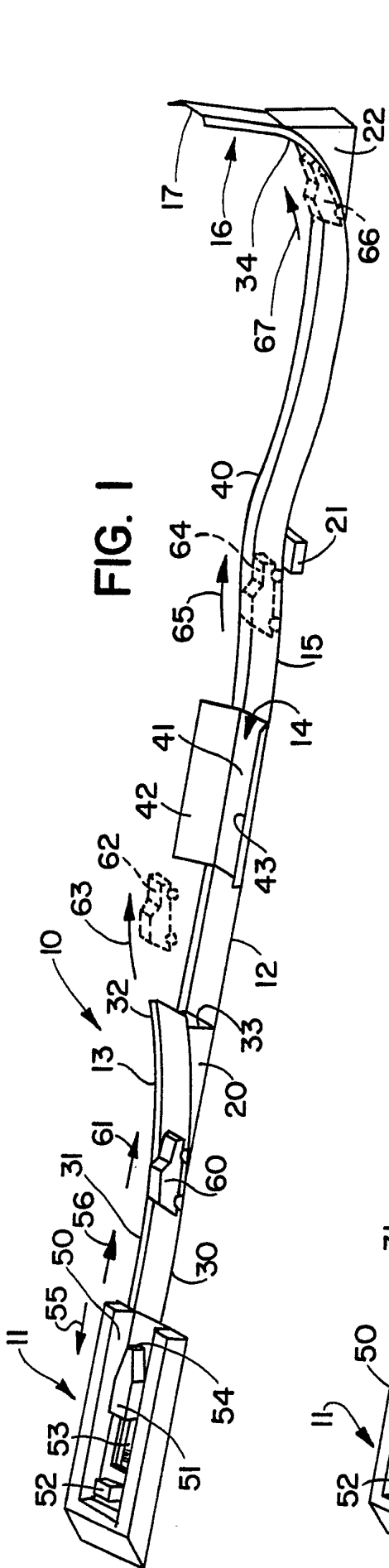
15 2. A toy vehicle jumpset as set forth in Claim 1 wherein said launch ramp includes a first flexible track portion having retaining sidewalls and wherein said stop means includes a generally wedge-shaped ramp support having a generally vertical stop surface.

20 3. A toy vehicle jumpset as set forth in Claim 2 wherein said stop means includes a second track portion interposed between said launch ramp and said receiving portion for accumulating successive launched and returned toy vehicles in a line between said launch
25 ramp and said receiving portion.

4. A toy vehicle jumpset as set forth in Claim 3 wherein said receiving portion includes a planar roadway portion and upwardly extending outwardly

inclined sidewalls and wherein said receiving portion is movable with respect to said launch ramp.

5. A toy vehicle jumpset as set forth in Claim 4 wherein said launcher imparts a launch force which may be varied by the user.



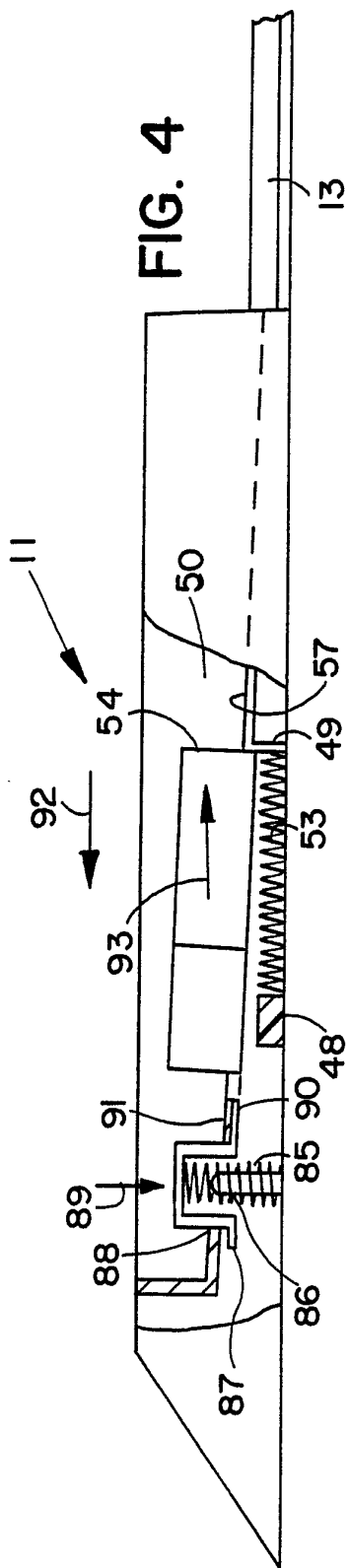


FIG. 4

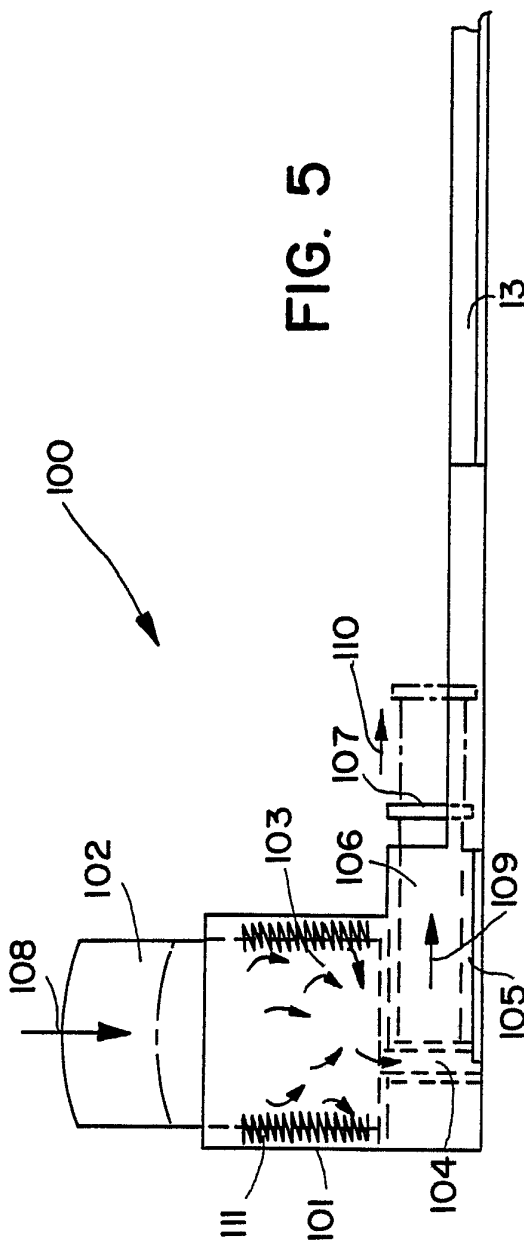
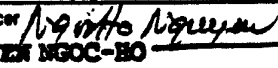


FIG. 5

INTERNATIONAL SEARCH REPORT

International Application No. **PCT/US91/03960**

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC IPC (5): A63H 18/00 U.S. CL.: 446/429		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
	446/429, 430,444	273/86B
U.S.	238/10R,10E,10B	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹		
Category [*]	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
A	U.S., A., 4,715,843 (OSTENDORFF) 29 DECEMBER 1987. SEE ENTIRE DOCUMENT	1-5
A	U.S., A., 4,423,871 (MUCARO) 03 JANUARY 1984 SEE ENTIRE DOCUMENT	
<p>[*] Special categories of cited documents: ¹⁰</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p>		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
28 AUGUST 1991		10 OCT 1991
International Searching Authority		Signature of Authorized Officer
ISA/US		 MICKEY YU NGUYEN NGOC-HO INTERNATIONAL DIVISION