April 16, 1957 N. M. GELFAND ET AL 2,788,613

INERTIA-PROPELLED TOY VEHICLE AND LAUNCHING RUNWAY

Filed June 10, 1955 3 Sheets-Sheet 1

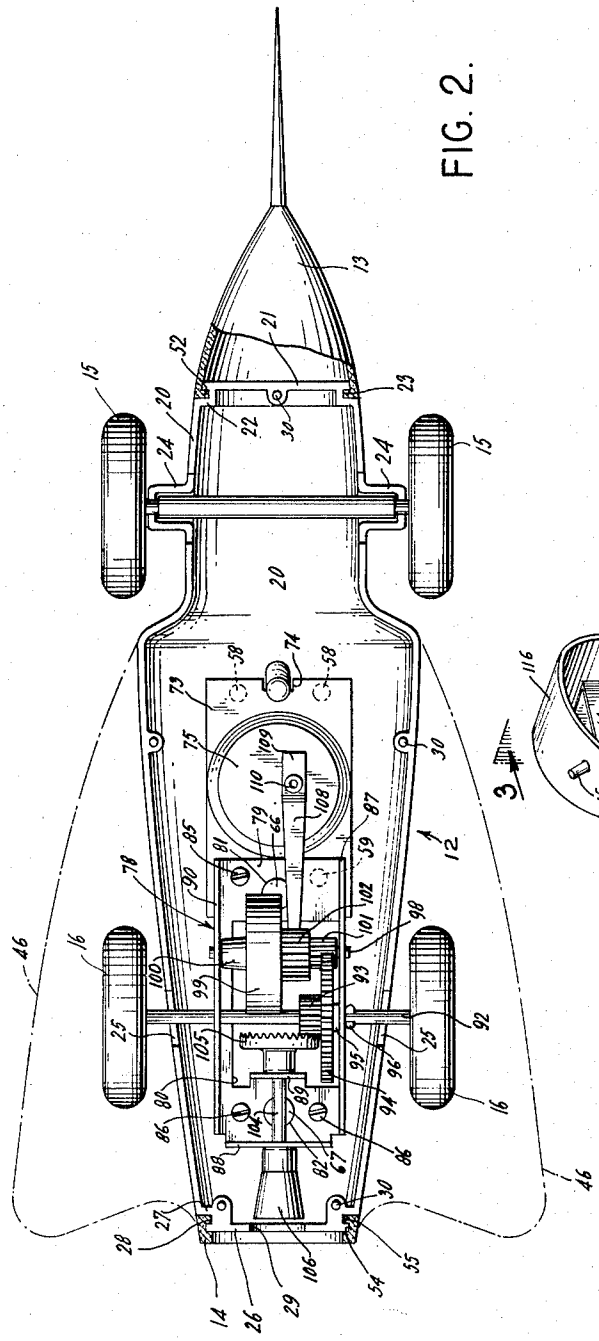


FIG. 2.

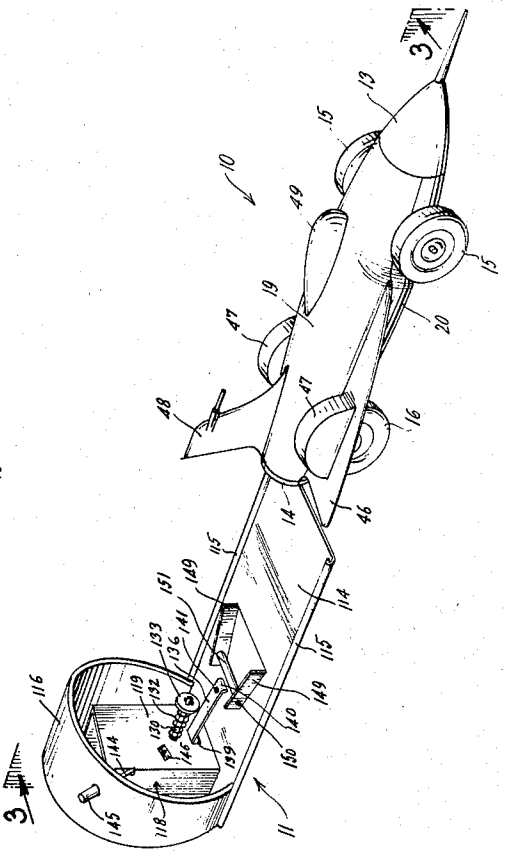


FIG. 1.

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FIG. 3.

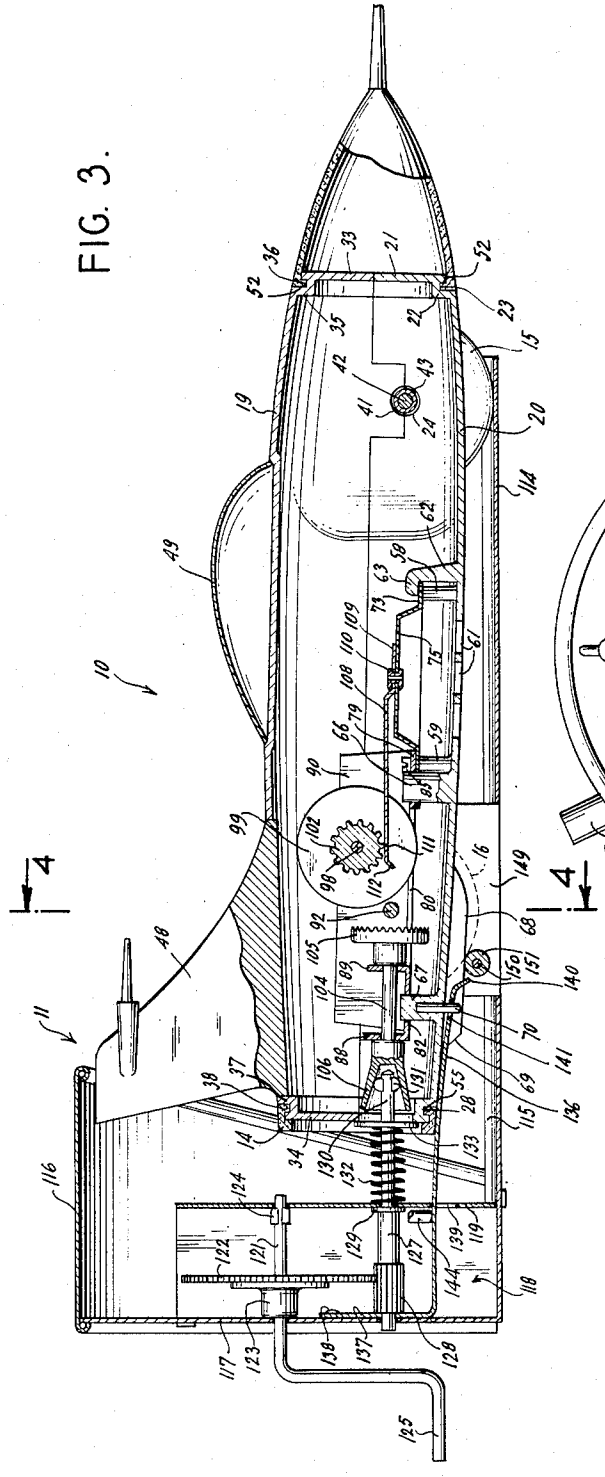
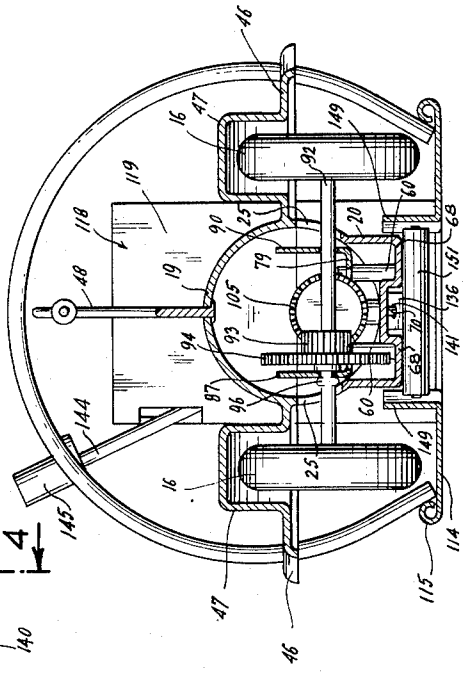


FIG. 4.



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FIG. 5.

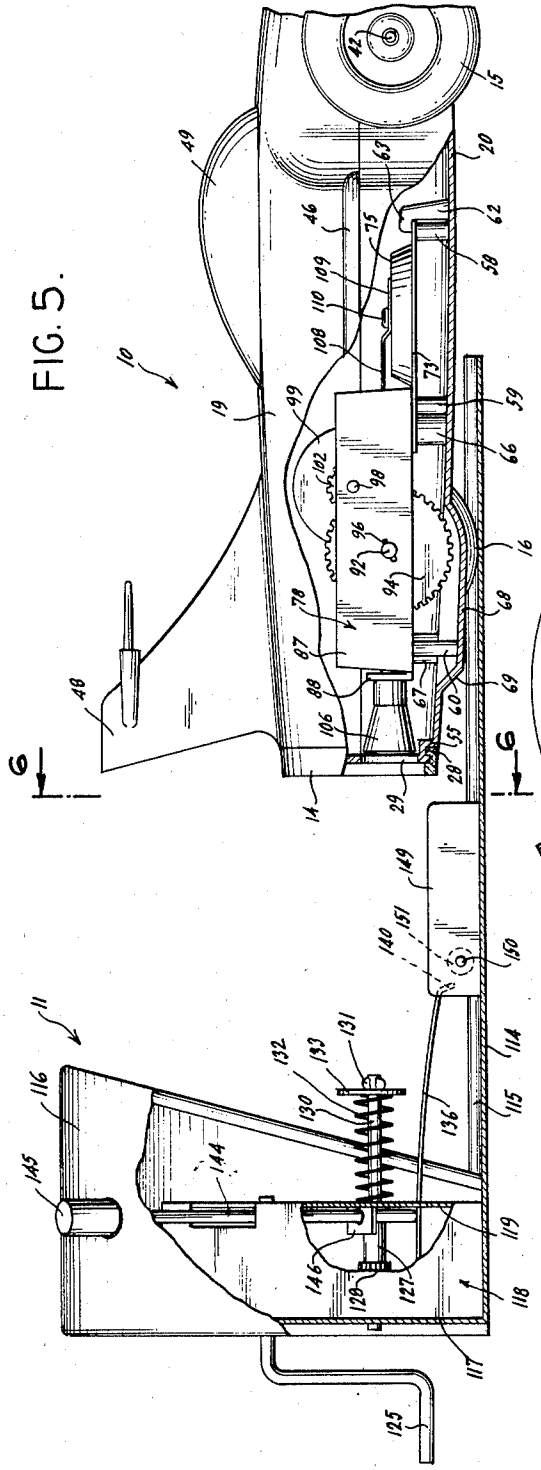
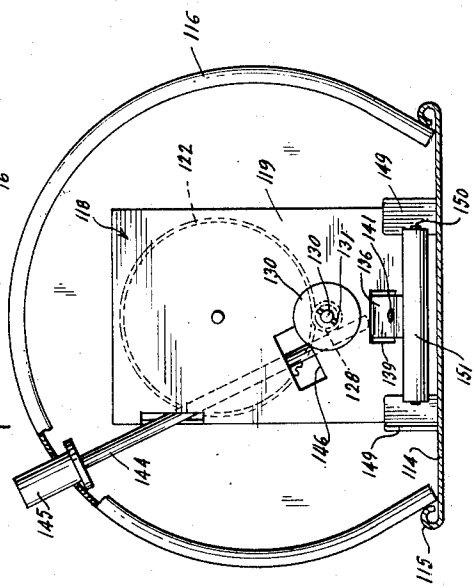


FIG. 6.



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United States Patent Office 2,788,613 Patented Apr. 16, 1957

2,788,613

INERTIA-PROPELLED TOY VEHICLE AND LAUNCHING RUNWAY

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Application June 10, 1955, Serial No. 514,668

10 Claims. (Cl. 46—202)

This invention relates generally to toys, and is particularly directed to a novel toy vehicle. The invention also embraces a launching mechanism and sound producing device for use in conjunction with toy vehicles.

The particuuar embodiment of the present invention, which is illustrated in the drawings, and which will be described hereinafter in greater detail, comprises generally a simulated turbojet car, airship or other desired vehicle, preferably having an inertia or fly wheel motor and sound producing means, and including a structure for launching the vehicle on its course of travel.

It is a general object of the present invention to provide a toy vehicle of the type described which is extremely simple in construction and easy to use, which accurately simulates an actual vehicle in operation, appearance and sound, is safe and durable as a plaything, and which can be manufactured and sold at a reasonable cost.

It is another object of the present invention to provide a novel launching mechanism for use with a toy vehicle, which launching mechanism enables even very young children to obtain maximum velocity and distance of travel from a toy vehicle of the inertia or fly wheel motor type.

It is a further object of the present invention to provide a toy vehicle having the advantageous characteristics mentioned in the foregoing paragraphs, which includes a highly improved sound producing means, operating entirely automatically to achieve a substantial volume and accurately simulate the sounds of jet powered cars, airships and various other vehicles.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described and of which the scope will be indicated by the appended claims.

In the drawings:

Figure 1 is a perspective view illustrating a vehicle and launching mechanism constructed in accordance with the present invention, the vehicle being illustrated apart from the launching device;

Fig. 2 is a top plan view showing the vehicle of Fig. 1, with parts illustrated in dot-and-dash outline, and parts broken away to expose the interior of the vehicle;

Fig. 3 is a longitudinal, elevational sectional view showing the vehicle and launching structure with the vehicle in position to be launched;

Fig. 4 is a transverse sectional view taken substantially along the line 4—4 of Fig. 3;

Fig. 5 is a side elevational view, partly broken away, showing the vehicle and launching structure, with the vehicle illustrated as being prepared for or just subsequent to the launching operation; and

Fig. 6 is a transverse sectional view taken substantially along the line 6—6 of Fig. 5.

Referring now more particularly to the drawings, and specifically to Fig. 1 thereof, the embodiment of the invention illustrated therein comprises a wheeled vehicle, generally designated 10, and a launching mechanism or structure, generally designated 11. The vehicle 10 comprises a body 12 having a front end or nose 13, a rear end member 14, a pair of coaxial, ground engageable front wheels 15, 15, and a pair of coaxial ground engageable rear wheels 16, 16.

The vehicle body 12 is of longitudinally elongate, hollow construction, and fabricated essentially of a downwardly concave, upper shell or section 19, and an upwardly concave, lower shell or section 20, shaped complementary to and disposed in edge to edge meeting relation with the upper shell.

In Fig. 2, the upper body section 19 is shown only in dot-and-dash outline, and the interior of the lower body section 20 is clearly seen. The lower body shell is formed with a generally semi-circular front wall section 21 which combines with the adjacent portion 22 of the lower shell to define an outwardly opening groove 23 of generally semi-circular configuration, and extending along the marginal portion of the front wall section. Also in the front region of the lower shell 20, rearwards of the front wall section 21, are formed a pair of opposed, laterally outwardly extending axle or journal bearing portions 24, 24, while a pair of laterally opposed cutouts 25, 25 open through the upper edge of the lower shell in the rearward region of the latter. A rear wall section 26, of generally semi-circular configuration, extends across the rear end of the lower shell 20, and combines with the adjacent lower shell portion 27 to define an outwardly opening, semi-circular groove extending along the periphery of the rear wall section. Medially of the rear wall section 26, and opening through the upper edge thereof, is formed a through aperture or opening 29; and, at spaced points along the upper edge of the lower body shell 20 are provided upstanding lugs or pins 30 for locating and securing the upper shell 19 in complementary, edge to edge relation with respect to the lower shell.

The upper body section or shell 19 has its lower peripheral edge or rim shaped for substantially conforming engagement with the upper edge of rim of the lower shell, and is further formed with generally semi-circular front and rear end wall sections 33 and 34, which combine, respectively, with the front and rear end wall sections 21 and 26 of the lower shell to define generally circular front and rear body end walls. In addition, the upper front wall section 33 combines with the adjacent portion 35 of the upper shell 19 to define an outwardly opening, generally semi-circular groove 36, while the upper rear wall section 34 combines with the adjacent upper shell portion 37 to define an outwardly opening, generally semi-circular groove 38. With the upper and lower body shells 19 and 20 arranged in their assembled relation to define the hollow vehicle body, the semi-circular lower and upper front grooves 23 and 36 are in substantial alignment with each other and define a generally annular groove circumferentially girding the front region of the vehicle body, while the upper and lower, semi-circular rear grooves 38 and 28 align to define an external, annular groove circumferentially girding the rear region of the vehicle body.

Extending laterally outwards from opposite portions of the upper shell 19, in the front region thereof, are a pair of axle or journal bearing portions 41, each of which cooperates with one of the axle bearing portions 24 to journal the front wheel axle 42 and properly retain the locating member or tube 43 circumposed about the axle.

When the vehicle **10** is intended to simulate a jet car, airship, or the like, the upper shell **19** may be provided on opposite sides with sweptback wings **46**, **46** (shown in dot-and-dash outline in Fig. 2) each shaped, as at **47**, **47** (see Fig. 1) to receive and cover one of the rear wheels **16**, **16**. Further, a rearwardly disposed, upstanding tail **48**, and a forwardly disposed dome or "bubble" **49** may be provided on the upper shell **19**, being formed integrally therewith, or formed separately from the upper shell and secured to the latter.

The nose **13** is of generally conical or conoidal shape, preferably fabricated of somewhat flexible, resilient material, such as polyethylene or the like, and is formed on its larger end with an inturned, peripherally extending lip or flange **52**. In assembly, the larger rearward end of the nose **13** is distended to engage over the upper and lower front wall sections **33** and **21**, so that the lip **52** snaps into the grooves **36** and **23**. In this manner, the front regions of the upper and lower shells **19** and **20** are held in their complementary relation by the nose **13**.

At the rear of the vehicle body **10**, the rear end member **14** preferably comprises an annulus or ring formed of resilient material, such as polyethylene or the like, and having an internal annular groove **54** which defines an internal, peripheral lip or flange **55**. The ring **14** is radially sustained for peripheral engagement about the upper and lower rear wall sections **34** and **26**, and upon release, the flange or lip **55** engages in the annular groove defined by the semi-circular grooves **38** and **28** to retain the rearward region of the body **10** in assembled relation.

Interiorly of the lower shell **20**, and preferably formed integrally therewith, are four rectangularly arranged upstanding studs, bosses or pins, including a laterally spaced forward pair of **58**, **58**, and a laterally spaced rearward pair **59**, **59**, all disposed longitudinally centrally of the vehicle body, intermediate the front wheel axle **42** and rearward cutouts **25**. An additional, laterally spaced pair of upstanding studs, pins or bosses **60**, **60** is formed interiorly of the lower shell **20** rearwards of the cutouts **25** and in substantial alignment with the pins **58** and **59**, longitudinally of the vehicle body. In the space intermediate the pins **58** and **59**, the lower shell **20** is open, reticulated or apertured, as at **61**; and, an upstanding, hook-shaped retaining member **62** is formed interiorly of the lower shell intermediate and just forwardly of the front pins or studs **58**, and having its upper portion **63** bent or hooked rearwards at an elevation slightly above the upper ends of the latter pins.

A pair of upstanding, locating bosses or studs **66** and **67** are also formed interiorly of the lower shell **20**, forwards and rearwards, respectively, of the cutouts **25**. The forward locating stud **66** is disposed intermediate the supporting pins **59**, and the rearward locating stud **67** is disposed intermediate the supporting pins **60**. However, the locating studs **66** and **67** have their upper ends disposed above the upper ends of the supporting pins **59** and **60**. On opposite sides of the locating stud **67**, the bottom or under portion of the lower shell **20** is depressed or recessed downwards to provide a pair of longitudinally extending, laterally spaced shoes or skids **68**, **68** protruding from the underside of the vehicle body. The rearward end surface **69** of each shoe **68** is disposed at a rearwardly inclined angle, and, a pin **70** is embedded in the locating stud **67** and has its lower end depending into the space between the shoes **68**, **68**.

A generally rectangular plate **73** is disposed horizontally, in spaced relation within the lower body shell **20** and supported in its corner regions on the upper ends of the pins **58** and **59**. The plate **73** is preferably cut away at its rear end for receiving the stud **66**, and has its front end notched or cut away at **74** for engagement under the upper end portion **63** of the hook-shaped member **62**. As best seen in Fig. 3, the plate **73** is disposed directly above the apertures **61**; and further, a generally circular intermediate portion **75** of the plate **73**, disposed immediately over the apertures **61**, is upset or elevated to define a vibratory sonorous diaphragm.

Disposed rearwards of the diaphragm plate **73**, within the rearward portion of the vehicle body **10**, is a motor frame, generally designated **78**. The frame includes a longitudinally extending, horizontally disposed bottom wall **79** having a relatively large central opening **80**, and a pair of relatively small openings **81** and **82** disposed, respectively, forwards and rearwards of the opening **80**. The forward portion of the bottom wall **79** is seated on the rearward portion of the plate **73** with the locating stud **66** received in the forward aperture **81**, and the rearward portion of the bottom wall is seated on the upper ends of the pins **60**, **60** with the aperture **82** receiving the locating pin or stud **67**. A single threaded fastener or screw **85** extends through the forward portion of the bottom wall **79**, the underlying rearward portion of the plate **73**, and into one of the supporting pins **59**, and combines with the locating stud **66** and retaining member **62** to prevent lateral shifting of the diaphragm plate.

Extending through the rearward portion of the frame bottom wall **79** are a pair of threaded fasteners or screws **86**, which threadedly engage in the supporting pins **60** and combine with the fastener **85** to fix the bottom wall upstanding rear wall **88** extends transversely of the side of the motor frame in position.

The motor frame also includes a pair of longitudinally extending, parallel spaced upstanding side walls **87** and **90** along opposite side edges of the bottom wall **79**. An walls along the rear edge of the bottom wall, and an upstanding plate portion or tab **89** extends along the rearward margin of the bottom wall opening **80** forwardly of and in facing spaced relation with respect to the rear wall.

The rear wheels **16**, **16** are disposed outwards, respectively, of the cutouts **25**, **25** and rigidly connected together by a rod or axle **92** which extends rotatably through the motor frame side walls **87** and **90**, and spacedly through the cutouts **25**. That is, the rod or axle **92** is disposed over the opening **80**, being rotatably mounted or journaled in the frame side walls **87**, and **90** and has its opposite ends extending spacedly through and outwards beyond the cutouts **25**, **25** for connection to the wheels **16**, **16**. Fixedly circumposed about the axle **92**, adjacent to but spaced inwards from the frame side wall **87** is a relatively small spur gear or pinion **93**, while a relatively large spur gear **94**, having an enlarged hub **95**, is fixedly circumposed about the latter axle between the pinion and frame side wall **87**. The pinion **93** and gear **94** are thus fixed relative to each other, and may, together with the enlarged hub **95**, be formed as an integral unit, if desired. As seen in Figs. 2 and 4, the hub **95** is disposed in engagement with the inner face of the side wall **87**, and permits rotation of the axle **92** while preventing shifting movement of the latter in one direction, to the left as seen in Fig. 4. Formed on the rod or axle **92**, just outwards of the frame side wall **87**, are a plurality of protuberances **96**, which permit the axle to rotate and restrain the latter against shifting movement to right, as seen in Fig. 4. Thus, the motor frame **78** rotatably supports the rear axle **92**, and the gears **93** and **94** are disposed within the frame and carried by the axle for rotation with the latter.

Disposed in parallel, forwardly spaced relation with respect to the axle **92**, over the frame opening **80**, and having its opposite end portions rotatably supported in the frame side walls **87** and **90** is a rod or shaft **98**. A relatively heavy fly wheel or inertia member **99**, having an enlarged hub **100**, is fixedly circumposed about the shaft **98** with the flywheel hub adjacent to the frame sidewall **90**, while a relatively small spur gear is fixedly located about the shaft **98** in meshing engagement with the gear **94** and disposed adjacent to the frame side wall **87**. A relatively large spur gear or radially toothed member **102** is fixedly circumposed about the shaft **98** intermediate the fly wheel **99** and spur gear **101**, so that

that fly wheel and gears 101 and 102 combine to define a rotary inertia unit, the fly wheel hub 100 and relatively small gear 101 being engageable with opposite frame side walls to retain the shaft in its journaled condition.

Rotatably supported in the rear frame wall 88, and the upstanding tab 89 is a longitudinally extending shaft 104. On the forward end of the shaft 104, rearwards of the axle 92, is fixed a crown gear 105 disposed in meshing engagement with the pinion 93, while the rearward end of the shaft 104 is provided with a rearward facing coupling element or socket 106 in adjacent relation with respect to the rear body wall opening 29. More particularly, the coupling element or socket 106 comprises a flaring, cup-shaped member, preferably fabricated of polyethylene or other suitable material, and fixed to the shaft 104 opening rearwards through the rear wall opening 29 for receiving a turning member, as will be described presently.

Upon rotation of the coupling element 106, which rotates the shaft 104 and crown gear 105, the pinion 93 is driven by the crown gear and causes simultaneous rotation of the gear 94, axle 92 and wheels 16. Further, the gear 94 drives its meshing pinion 101 which effects rotation of the fly wheel 99 and the radially toothed member or spur gear 102. The flywheel and other rotating parts of course serve to drive the wheels 16 in the manner of an inertia motor.

An elongate somewhat resilient diaphragm operating member, strip or arm 108, see Fig. 3, extends forwardly and rearwardly of the vehicle body 10 and its forward end portion offset downwardly, as at 109 and secured, as by the rivet 110 in facing engagement with the upper surface of the diaphragm 75. The rearward end portion 111 of the diaphragm arm 108 extends below and in generally tangential, contacting relation with respect to the radially toothed rotary member 102. That is, the rearward portion of the diaphragm arm is resiliently urged into tangential contact with the toothed member 102; and, the rearward terminal portion 112 of the diaphragm arm is angulated downwards away from the toothed member.

Obviously, when the inertia unit is energized, as described hereinbefore, successive teeth of the spur gear 102 will move into contact with the rearward end portion 111 of the diaphragm arm and repeatedly deflect the latter downwards. As the teeth of the gear 102 are relatively close together, and as the arm 108 is disposed generally tangent to the latter gear, a somewhat sinusoidal oscillation will be imparted to the arm, rather than a ratchet type motion. This oscillation is transferred through the arm to the diaphragm 75, causing the latter to oscillate and produce sound in accordance with the frequency of oscillation. As the diaphragm plate 73 is arranged in spaced relation within the vehicle body 10, being spaced from both the upper and lower body shells, sound waves will be produced on both the upper and lower sides of the diaphragm. The sound waves produced on the underside of the diaphragm will pass directly through the apertures 61 to the surrounding medium Sound waves produced on the upper side of the diaphragm will also pass exteriorly of the vehicle body as the diaphragm plate 73 is spaced from the lower body shell 20 and permits the passage of sound waves around the diaphragm plate, between the supporting pins 58 and 59, and thence outwards through the apertures 61. By this construction, a relatively high volume of sound is produced which accurately simulates that of actual jet vehicles.

The launching structure 11 includes a longitudinally extending base plate or runway 114 adapted to rest upon an appropriate supporting surface, and having its opposite longitudinal side portions provided with parallel spaced guide members or rails, as defined by the upturned margins 115. Adjacent to the rear end of base or runway 114 is fixedly secured an upstanding, forwardly opening hood 116, which has its rearward end closed by a wall 117 extending upwards from the base 114. Disposed within the hood 116, fixedly secured to the rear hood wall 117, is a housing 118 having a front wall 119 spaced forwardly of the rear hood wall.

As best seen in Fig. 3, a shaft 121 extends longitudinally of the runway 114 and is rotatably supported in the front wall 119 of the housing 118 and the rear hood wall 117. A relatively large gear 122 is fixedly circumposed about the shaft 121, interiorly of the housing 118, and includes a rearwardly enlarged hub 123 engageable with the rear hood wall 117 to prevent rearward withdrawal of the shaft 121 from the hood. A plurality of protuberances 124 are formed on the shaft 121 interiorly of the housing 118, adjacent to the housing front wall 119 to prevent forward shifting movement of the latter shaft. Rearwards of the rear hood wall 117, the shaft 121 is provided with a crank extension 125 for manual cranking actuation to rotate the shaft 121 and gear 122.

A second longitudinally extending shaft 127, disposed below and in parallel spaced relation with respect to the shaft 121, is rotatably supported in the rear hood wall 117 and front wall 119 of the housing 118. Fixedly circumposed about the shaft 127, in meshing engagement with the gear 122, is a spur gear or pinion 128 disposed adjacent to the rear hood wall 117. An enlarged shoulder or collar 129 is provided on the shaft 127 interiorly of and adjacent to the housing front wall 119, so that the pinion gear and collar 129 limit longitudinal shifting of the shaft 127 in both directions. The shaft 127 is formed with a longitudinal extension, shank or turning member 130 projecting forwardly substantially beyond the front wall of the housing 118, and having its forward end headed, or otherwise enlarged, as by protuberances 131. Rotatably circumposed about the forwardly extending shank 130 of the shaft 127 is a helical coil spring 132 which has its rearward end in abutting engagement with the housing front wall 119. A retaining plate or bearing washer 133 is rotatably circumposed about the shank 130, interposed between and in engagement with the forward end of the spring 132 and headed end 131 of the shank. That is, the headed shank end 131 holds the washer 133 on the shank, and the washer retains the spring 132 on the shank and under compression.

Actuation of the crank arm 125 causes the spur gear 122 to rotate, which in turn drives the pinion 128 and rotates the shaft 127 and shank 130.

A holding strip or catch member 136, fabricated of resilient strip material, has one end portion 137 disposed generally vertically and secured interiorly of the housing 118, as by a fastener 138, in facing engagement with the rear hood wall 117. If desired, the rearward strip portion 138 may extend between the pinion 128 and the rear hood wall to further limit longitudinal shifting of the shaft 127. From the rearward strip portion 137, the catch member extends generally horizontally forwards through an opening 139 in the front wall of the housing 118, and terminates in a downwardly angulated free forward end 140 disposed forwardly of the headed shank end 131. Adjacent to the downwardly angulated terminal strip portion, the strip is formed with a through aperture 141. By reason of its horizontal disposition, resilience, and the size of the opening 139, the catch or strip 136 is readily depressed or deflected below its normal position, which is the position illustrated in Fig. 3 in abutting engagement with the upper edge of the opening 139.

For convenience in depressing the strip 136, an upwardly angulated actuating member or rod 144 has its lower end engageable with the upper surface of the strip interiorly of the housing 118, and extends upwards therefrom, terminating at its upper end in an enlarged head or button 145 projecting outwards through the hood 116. That is, an apertured ear 146 slidably supports the lower portion of the rod 144, and the button 145 is slidably supported in the hood 116, so that depression of the but-

ton serves to depress the resilient strip or catch member below its normal position.

Fixed on the runway 114, forwardly of the hood 116, are a pair of laterally spaced, rearwardly converging, upstanding guide members or rails, 149, 149 which have their rearward end portions spaced apart laterally a distance just slightly greater than the combined widths of the spaced shoes or depressed under portions 68, 68 of the vehicle body. Extending laterally between the guide members or rails 149 and 149, adjacent to the rearward ends thereof, is a generally horizontally disposed shaft 150. The shaft has its opposite ends preferably rotatably supported in the respective guide members 149, 149 and is provided with a tubular spacing member or roller 151 circumposed about the shaft intermediate the guide rails. The height of the roller 151 is arranged to engage the inclined rearward surfaces 69 of the shoes 68 upon rearward movement of the vehicle 10, along the runway to elevate the vehicle.

More specifically, the vehicle 10 is moved rearwards from the position illustrated in Fig. 1 so that the rear wheels 16, 16 are received on the runway 114 and guided therealong by the side members 115, 115. Upon further rearward movement of the vehicle 10, the depressed under body portions or shoes 68 and 68 are received between the forward portions of the guide rails 149 and 149, which serve upon further rearward movement to hold the vehicle in the proper lateral position. That is, the guide rails converge to properly position the shoes 68, 68 and hence the vehicle 10. When the inclined rear shoe surfaces 69, 69 engage the roller 151, the latter serves to elevate the rear of the vehicle to raise the rear wheels 16, 16 above the runway. Simultaneously, the depending end of the pin 70 engages with the forward terminal portion 140 of the resilient catch member 136 to deflect the latter downwards and permit continued riding up of the pin on the catch member until the pin snaps into the catch member opening 141, which position is illustrated in Fig. 3.

When the rear of the vehicle 10 is elevated by the roller 151, the socket 106 will be disposed in substantial alignment with shank 130, and the plate or washer 133 in bearing engagement with the rear wall section 26 of the vehicle body. Hence, further rearward movement of the vehicle serves to displace the washer rearwardly to compress the spring 132, and displace the socket 106 rearwardly to frictionally and non-rotatably receive the enlarged forward end 131 of the shank 130. At this instant, the pin 70 snaps into the catch opening 141 and the vehicle may be released with the catch member 136 serving to hold the vehicle in the elevated launching position of Fig. 3 against the force of the compressed spring 132.

Manual cranking of the arm 125 effects rotation of the shank 130, and the spring 132 and washer 133 remain unmoved. The non-rotative coupling engagement between the headed shank end 131 and socket 106 serves to turn the latter and energize the wheels 16, 16, fly wheel 99, and diaphragm 75, all as described hereinbefore. When substantial energy has been stored in the fly wheel, and other rotating parts, as by attaining a desired angular velocity, the button 145 on the operating rod 144 may be depressed. This will deflect the forward end portion of the catch 136 downwards to release the pin 70 from the aperture 141. The compressed spring 132 and washer 133 are then free to impel the vehicle 10 forwards along the runway, with the wheels 16, 16 initially rotating in air, and subsequently engaging with the ground or other supporting surface when the vehicle has acquired substantial momentum. Hence, the energy of the fly wheel is not dissipated in starting friction, as when an inertia motor vehicle is merely placed upon a supporting surface in the conventional manner, but rather, fully utilizes the stored energy to sustain forward movement of the vehicle.

From the foregoing, it is seen that the present invention provides a toy vehicle construction which fully accomplishes its intended objects, and well adapted to meet practical conditions of manufacture and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. A toy vehicle comprising a hollow body, ground engageable wheels rotatably mounted in said body, a fly wheel motor disposed within said body in driving engagement with at least one of said wheels, a rotary coupling element mounted interiorly of said body adjacent to a wall opening in the latter and operatively connected to said motor to energize the latter upon rotation of said coupling element, and a launching structure comprising a base, means on said base for supporting a body in launching position with said driven wheel in elevated condition, and a manually actuable turning member rotatably mounted on said base and positioned to extend through said body wall opening into coupling engagement with said coupling element when said body is supported in said launching position, rotation of said turning member thus serving to energize said motor and rotate said driven wheel with a minimum of resistance.

2. A toy vehicle according to claim 1, in combination with a holding member movably mounted on said launching structure for releasably retaining said body in said launching position, means for moving said holding member to release said body, and compressible resilient means carried by said launching structure and engageable in compressed condition with said body when the latter is in said launching position, whereby said resilient means imparts an impulse force to said body upon release of said holding member.

3. A toy comprising a hollow vehicle body, front and rear ground engageable wheels rotatably mounted in said body, an inertia motor mounted within said body in driving connection with said rear wheels, a rotary coupling element mounted interiorly of said body adjacent to a rear opening in the latter and operatively connected to said motor to energize the latter upon rotation of said coupling element, a launching runway for receiving said rear wheels, means on said runway for supporting said body in a launching position with said rear wheels elevated above said runway, a manually actuable turning member rotatably mounted on said runway and positioned to extend through said rear body opening in driving engagement with said coupling element when said body is in said launching position, rotation of said turning element thus serving to energize said motor, resilient means mounted above said runway and arranged for engagement with the rear of said body to be compressed by the latter when said body is in said launching position, and a selectively releasable catch mounted on said runway and engageable with said body to hold the latter in said launching position against the force of said resilient means, whereby release of said catch enables said resilient means to impel said body forwards from said launching position so that said rear wheels engage with said runway when said body has obtained substantial momentum.

4. A toy according to claim 3, said body supporting means comprising a pair of rearwardly converging upstanding guide members fixed on said runway to receive an under portion of said body upon rearward movement of said body along said runway, and a roller extending between said guide members and engageable with said body under portion upon said rearward body movement to elevate said body into said launching position.

5. A toy according to claim 3, said coupling element comprising a socket facing rearwards through said rear body opening, and said turning member comprising a

headed shank having its headed end extending forwards for non-rotative insertion in said socket when said body is in said launching position.

6. A toy according to claim 5, said resilient means comprising a coil compression spring rotatably circumposed about said shank and having its rear end held against rearward movement, and a retaining member rotatably circumposed about said shank interposed between and in bearing engagement with the forward end of said spring and the head of said shank to hold said spring in compression on said shank, said retaining member being in abutting engagement with the rear of said body when said head end of said shank is inserted into said socket to further compress said spring and increase the impelling force of the latter.

7. A toy according to claim 3, said catch comprising a resilient bendable strip having one end fixed relative to said runway and having its other end yieldably biased toward interlocking engagement with said body when the latter is in said launching position, and a shiftable operating member connected to said strip to move the latter out of said interlocking engagement and release said body.

8. A launching device for a wheeled vehicle having an inertia motor, said device comprising a runway for receiving wheels of said vehicle, a pair of laterally spaced rearwardly converging guide rails fixed on said runway to receive an underportion of said vehicle and laterally guide the latter upon rearward movement of said vehicle along said runway, a support member disposed between said rails and engageable with said vehicle under portion upon said rearward vehicle movement to raise said vehicle into an elevated launching position, an upstanding housing on said runway rearward of said guide rails, a turning member rotatably mounted in said housing and having one end projected forward for operative connection to said inertia motor when said vehicle is in launching

position, resilient means disposed forwardly of said housing and engageable with said vehicle to be compressed by the latter when said vehicle is disposed in said launching position, and a movable holding member projecting forward from said housing and engageable with said vehicle to releasably retain the latter in said launching position against the force of said resilient means.

9. A launching platform according to claim 8, said resilient means comprising a coil compression spring rotatably circumposed about said turning member and having its rear end held against rearward movement by said housing, and a retaining plate rotatably circumposed about said turning member to retain said spring on said turning member, said retaining plate being engageable with the rear of said vehicle body when said turning member is connected to said motor to further compress said spring and increase the impelling force of the latter.

10. A launching platform according to claim 8, said holding member comprising a resilient bendable strip having one end fixed relative to said housing and having its other end extending forwards for interlocking engagement with said body when the latter is in said launching position, said strip being resiliently bendable to release said body from said interlocking engagement.

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