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- (71) **Applicant (for all designated States except US):** MATTEL, INC. [US/US]; 333 Continental Boulevard, El Segundo, CA 90245 (US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only):** GOSZEWSKI, Robert, M. [US/US]; 75 Doe Haven Circle, Depew, NY 14043 (US).
- (74) **Agents:** HOWARD, R. Richman et al.; Edell, Shapiro & Finnan, LLC, 9801 Washingtonian Boulevard, Suite 750, Gaithersburg, MD 20878 (US).
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(54) **Title:** INFANT SUPPORT STRUCTURE WITH ENTERTAINMENT PORTION

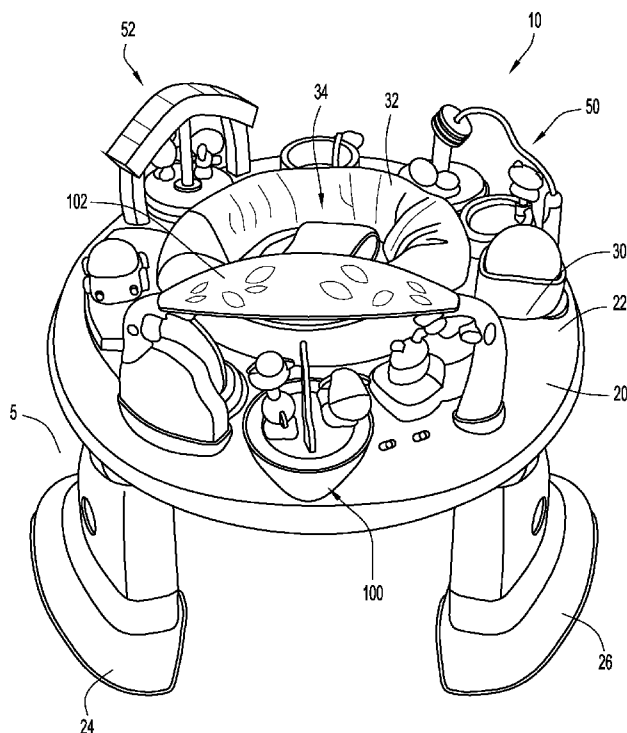


FIG.1

(57) **Abstract:** The present invention is directed to an infant support structure. In one embodiment, the infant support structure includes a frame that has an activity portion or tray area that is located proximate to a seat in which an infant can be placed. The seat is rotatable so that the infant can view and play with different elements in the activity portion. The infant support structure includes an entertainment mechanism that has several movable elements or components coupled to the frame. A drive mechanism is connected to the movable elements and configured so that the drive mechanism moves the movable elements when the drive mechanism is activated. The infant support structure includes at least one input mechanism or switch that can be activated by a child to provide the input to activate the drive mechanism to move the movable elements.



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INFANT SUPPORT STRUCTURE WITH ENTERTAINMENT PORTION

CROSS-REFERENCE TO RELATED APPLICATIONS

[001] This application claims the benefit of and priority under 35 U.S.C. 119(e) to U.S. Provisional Application No. 61/535,651, entitled “Infant Support Structure with Entertainment Portion”, filed September 16, 2011, the disclosure of which is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

[002] The present invention relates to an infant support structure and, in particular, to an infant support structure that includes an entertainment portion or mechanism.

BACKGROUND OF THE INVENTION

[003] Infant support structures are used to support an infant or child. Typically, infant support structures include a frame and a seat or support portion on or in which the infant or child can be placed. Many conventional infant support structures do not include any entertainment objects or elements that can provide amusement or entertainment or interaction for the child on the support structure. In addition, conventional infant support structures lack entertainment objects that produce an output in response to actuation or engagement by the child.

[004] Thus, it is desirable to provide an infant support structure that includes an entertainment portion that is actuated in response to input from a child, thereby enhancing the enjoyment of the child on the support structure.

SUMMARY OF THE INVENTION

[005] The present invention is directed to an infant support structure. In one embodiment, the infant support structure includes a frame that has an activity portion or tray area that is located proximate to a seat in which an infant can be placed. The seat is rotatable so that the infant can view and play with different elements in the activity portion. The infant support structure includes an entertainment mechanism that has several movable elements or components coupled to the frame. A drive mechanism is connected to the movable elements and configured so that the drive mechanism moves the movable elements when the drive mechanism is activated. The infant support structure includes at least one input mechanism or switch that can be activated by a child to provide the input to activate the drive mechanism to move the movable elements.

[006] In one embodiment, an infant support structure, comprises a frame including a seat and an activity portion, the seat being configured to support an infant, the activity portion being located proximate to the seat; and an entertainment mechanism coupled to the activity portion, the entertainment portion includes a drive mechanism and an entertainment mechanism, the drive mechanism being actuated by an infant in the seat.

[007] In an alternative embodiment, the entertainment mechanism includes a movable element connected to the drive mechanism and an input switch coupled to the movable element, and the movement of the movable element by the infant actuates the input switch and activates the drive mechanism.

[008] In another embodiment, the movable element is a first movable element, the entertainment mechanism includes a second movable element, and when activated, the drive mechanism causes the second movable element to move.

[009] In another embodiment, the entertainment mechanism includes several movable elements coupled to the frame in the activity portion, and activation of the drive mechanism causes each of the movable elements to move relative to the frame.

[0010] In one embodiment, some of the movable elements are connected to each other via transmission mechanisms, such as endless belts, and pulleys.

[0011] In another embodiment, some of the movable elements are connected to each other via teeth on gears.

[0012] In another embodiment, the seat of the infant support structure includes a set of teeth and the movement mechanism connected to the movable elements of the entertainment mechanism is engaged with the teeth of the seat. In this configuration, rotation of the seat by an infant causes rotation or other movement of the movable elements relative to the frame.

[0013] In one embodiment, the activity portion is located around the seat.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 illustrates a front perspective view of an infant support structure in accordance with an embodiment of the present invention.

[0015] FIGS. 2 and 3 illustrate close-up perspective views of a portion of the infant support structure illustrated in FIG. 1.

[0016] FIG. 4 illustrates a bottom view of a portion of the infant support structure illustrated in FIG. 1, showing a portion of the drive mechanism of the infant support structure.

[0017] FIGS. 5 and 6 illustrate close-up perspective views of different parts of the drive mechanism illustrated in FIG. 4.

[0018] FIG. 7 illustrates an exploded view of one of the entertainment elements of the infant support structure illustrated in FIG. 1.

[0019] FIG. 8 illustrates a close-up side view of a portion of the entertainment element illustrated in FIG. 7.

[0020] FIG. 9 illustrates another close-up perspective view of part of the drive mechanism illustrated in FIG. 4.

[0021] FIGS. 10A and 10B illustrate a schematic diagram of a circuit of the infant support structure illustrated in FIG. 1 in accordance with an embodiment of the present invention.

[0022] FIG. 11 illustrates a perspective view of an alternative embodiment of an infant support structure in accordance with an embodiment of the present invention.

[0023] Like reference numerals have been used to identify like elements throughout this disclosure.

DETAILED DESCRIPTION OF THE INVENTION

[0024] The terms “entertainment object,” “entertainment element,” “entertainment component,” “movable object,” “movable element,” and “play items” are used interchangeably herein to refer to an object that can move, generate an output (whether visual or audible), be engaged by a child, and/or otherwise provide entertainment for a child. The terms “child” and “infant” are used interchangeably herein as well. The term “infant support structure” is used to refer to any frame or structure that is used to support an infant or child. For example, the infant support structure can be a swing, a high chair, a booster, a bouncer, an entertainer, a walker, a jumperoo, or other structure that can be used to support an infant or child.

[0025] Referring to FIG. 1, an embodiment of an infant support structure in accordance with the present invention is illustrated. In this embodiment, the infant support structure 10 is an entertainer structure that supports a child relative to a support surface 5. The infant support

structure 10 includes a frame 20 with a frame or upper portion 22 and several legs that support the upper portion 22 relative to the support surface 5. While only legs 24 and 26 are shown in the view illustrated in FIG. 1, the frame 20 includes three or more legs. The upper portion 22 can be referred to alternatively as an activity or entertainment portion or activity surface as well. In addition, the upper portion 22 may have a tray shaped configuration.

[0026] The frame 20 includes a seat 32 that is supported by the upper portion 22. In one embodiment, the seat 32 is rotatably mounted on the upper portion 22 so that a child located in the receptacle 34 of the seat 32 can pivot or rotate the seat 32 relative to the rest of the frame 20. As a result, the child in the seat 32 can turn and change the part of the upper portion 22 that is in front of the child.

[0027] In this embodiment, the upper portion 22 has an upper surface or side 30 that has several play items or components coupled thereto with which a child can play. Referring to FIG. 1, play items 50 and 52 include mechanical parts that can be slid, rotated, twisted, and/or otherwise moved relative to the upper surface 30.

[0028] In addition, the infant support structure 10 includes an entertainment portion or section 100 that has several different portions or components that move relative to the activity surface 22. Referring to FIG. 2, a close-up perspective view of the entertainment portion 100 is illustrated. In this embodiment, the entertainment portion 100 includes a cover 102, with arms 104 and 106, that is mounted to the upper portion 22 of the frame 20. Proximate to the cover 102 are mechanisms 200, 300, and 400, which are described in detail below. The upper portion 22 also includes openings 111 and 113 in which switches 110 and 112 are located, respectively. The switches 110 and 112 are used to control the operation of the components of the entertainment portion 100, such as the mode of operation, powering up the device, and/or adjusting the volume.

[0029] Referring to FIG. 3, another perspective view of the entertainment portion 100 is illustrated. Mechanism 200 includes a platform 210 that is mounted in an opening 36 formed in activity portion 22. The platform 210 rotates about a vertical axis. Proximate to the platform 210 is a housing 202 that is supported on the activity portion 22. A plate 220 is coupled to the housing 202 and mounted for rotation relative thereto. The plate 220 rotates about a substantially horizontal axis. In this embodiment, the plate 220 has several elements 222, 224, and 226 mounted thereon. Each of the elements 222, 224, and 226 is coupled to the plate 220 by a connector that is offset from the center of gravity of the particular element, which results in the elements 222, 224, and 226 spinning or rotating as the plate 220 rotates and the relative positions of the elements 222, 224, and 226 move.

[0030] Mechanism 300 includes a platform 310 that is rotatably mounted in another opening 38 in the activity portion 22. A stand or wall 320 is mounted on the platform 310. In addition, toy figures 330 and 340 are coupled to the platform 310 as well and are located on opposite sides of the wall 320. As the platform 310 spins or rotates about a vertical axis, the toy figures 330 and 340 are alternately visible to the child in the seat 32.

[0031] Mechanism 400 includes a housing 410 that is coupled to the activity portion 22. The housing 410 has an upper surface 412 with openings 414 and 416 formed therein.

Mechanism 400 includes objects or figures 420 and 422 that are mounted in the openings 414 and 416 are movable relative to the housing 410. As described in detail below, the objects 420 and 422 move up and down in an alternating manner.

[0032] Referring to FIG. 4, a bottom view of a portion of the infant support structure 100 is illustrated. The lower side of the activity portion 22 is illustrated as well as the seat 32.

Located beneath the activity portion 22 is a drive mechanism 500 that drives or moves the movable portions or components of the different mechanisms 200, 300, and 400 illustrated in FIG. 3. The drive mechanism 500 is actuated or activated when a switch of the electronic

system of the infant support structure 10 is closed. The infant support structure 10 includes several input switches on the activity portion 22. Each of the input switches are coupled to components or elements on the activity portion 22 such that when a child bats at or contacts a component or element, the corresponding input switch is closed and a motor of the drive mechanism 500 is activated.

[0033] Referring to FIGS. 4-6, several components of the drive mechanism 500 are illustrated. In this embodiment, the drive mechanism 500 includes a motor 510 (see FIG. 5) that is connected to an electrical system that includes a power source, such as one or more batteries. The electrical system includes the input switches referenced above and a controller that controls the functioning of the components of the system. The motor 510 has an output shaft to which a pulley 520 is coupled. As the motor 510 is operated, it rotates the output shaft and the pulley 520. A plate 512 (see FIG. 5) is coupled to the upper portion 22 via several connectors 513. The motor 510 is coupled to the upper portion 22 via the plate 512.

[0034] Referring to FIG. 5, another pulley 524 is mounted for rotation on a shaft that is coupled to the upper portion 22. In addition, another pulley 522 is coupled to the shaft 525 for rotation about an axis defined by the shaft 525. A transmission mechanism 530, such as an endless belt, is placed in a groove of pulley 520 and a groove of pulley 522. As pulley 520 is rotated by the motor 510, the rotation of the pulley 520 is transmitted to pulley 522 via the belt 530. In an alternative embodiment, the transmission of the rotation of pulley 520 to pulley 522 can be accomplished via a set of gears.

[0035] Pulley 524 is connected to pulley 522 such that the pulleys 522 and 524 rotate at the same time. Referring to FIG. 6, a transmission mechanism 532, such as a belt, transfers the rotation of pulley 524 into rotation of a gear 230 that is rotatably mounted to the portion 22. The belt 532 is located in a groove in pulley 524 and a groove in gear 230. As shown, gear 230

includes a set of teeth 232 formed along its perimeter. As pulley 524 rotates, gear 230 also rotates via belt 532.

[0036] Referring back to FIG. 4, gear 230 is located beneath mechanism 200. Gear 230 is coupled to the platform 210 of mechanism 200 so that as gear 230 rotates, platform 210 also rotates. As shown, gear 230 includes a pulley 240 coupled thereto and rotatable therewith. The gear 230 and the pulley 240 are mounted for rotation about the axle 245 which defines an axis of rotation. Pulley 240 includes a groove formed therein in which a transmission mechanism or belt 534 is engaged.

[0037] Located beneath mechanism 300 is a lower plate 350 and a pulley 360 that is coupled or connected to platform 310. The pulley 360 is mounted for rotation about axle 365 and includes a groove in which belt 534 is engaged. As pulley 240 rotates, the belt 534 rotates and causes pulley 360 to rotate as well, which imparts rotation to platform 310 about the axis defined by axle 365.

[0038] Referring to FIG. 4, the activity portion 22 has an opening through which a gear 250 with teeth 252 extends. The gears 230 and 250 are mounted perpendicularly to each other and the meshing or engagement of teeth 232 with teeth 252 cause gear 250 to rotate as gear 230 rotates.

[0039] Referring to FIGS. 7 and 8, some of the components of mechanism 200 are illustrated. The housing 202 includes housing portions 260 and 262 that are coupled together via connectors that are used with posts 268 and sleeves 269 sized to receive the posts 268. Housing portion 260 includes a pair of posts 264 and 266 that are sized to be inserted into openings formed in the activity portion 22 of the infant support structure 100.

[0040] As shown in FIG. 7, several elements are located between the housing portions 260 and 262. Arm 104 of the cover 102 includes an end portion 108 that is captured between the housing

portions 260 and 262. When the housing 202 is coupled to the activity portion 22, the arm 104 is coupled to the activity portion 22 via the housing 202. Also located between the housing portions 260 and 262 is the gear 250 with teeth 252 that is mounted for rotation about connector 255. Gear 250 is illustrated in FIG. 4 as being engaged with gear 230 via teeth 232 and 252. Also coupled to housing 202 is a pulley 270 that is mounted via a connector 272 about which it rotates.

[0041] Referring to FIG. 8, a close-up side view of some of the components illustrated in FIG. 7 is illustrated. As shown, gear 250 includes a pulley 254 coupled thereto. A transmission mechanism or belt 274 is engaged with a groove formed in pulley 254 and a groove formed in pulley 270. As gear 250 is rotated by gear 230, pulley 254 simultaneously rotates and the belt 274 causes pulley 270 to rotate as well relative to housing portion 262. The pulley 270 is operably connected to plate 220 such that rotation of the pulley 270 results in rotation of the plate 220.

[0042] Referring to FIG. 9, some additional components of the drive mechanism 500 are illustrated. As shown, the lower plate 350 includes openings 352 and 354 formed therein. As visible through opening 352, the platform 310 includes a flange portion 312 that has an edge 314. In one embodiment, the length of the flange portion 312 varies, which results in the edge 314 having an undulating shape or pattern. Opening 354 also permits access to the flange portion 312 of the platform 310 as well.

[0043] The drive mechanism 500 also includes a lever 370 that is pivotally mounted to the activity portion 22. The lever 370 includes a pair of arms 372 that is engaged with a pair of slots or notches 368 formed in side walls 366. The lever 370 is mounted for movement relative to the activity portion 22 about the arms 372. The lever 370 has opposite ends as well. One end 371 of the lever 370 is located in the opening 354 and is in engagement or contact with the flange portion 312 of the platform 310. As the shape of the flange portion 312 varies, the lever end 371

in engagement therewith moves, thereby causing the lever 370 to pivot about the arms 372. At the opposite end of the lever 370 is a bar 374 that extends outwardly.

[0044] Another lever 380 is pivotally mounted to the activity portion 22. This lever 380 includes a pair of arms 386 that are engaged with notches 369 formed in walls 367. The arms 386 define a pivot axis about which the lever 380 pivots. Lever 380 includes an engagement portion 382 that defines a passageway 384 into which an end of arm 374 is located. As lever 370 pivots about its pivot axis, the engagement of arm 374 with portion 382 causes lever 380 to pivot about its pivot axis. The lever 380 also includes a post 388 extending therefrom on which a biasing mechanism 385, such as a spring, is mounted.

[0045] When a lower housing portion (not shown) of the activity portion 22 is coupled to the upper housing portion (shown in FIG. 9), the components of the drive mechanism 500 are located in the interior region or cavity defined by the housing portions of the activity portion 22. In addition, the biasing mechanism 385 is engaged with the lower housing portion, which imparts a bias to lever 380 as well. Lever 380 includes actuating portions 390 and 392 that extend upwardly through openings 37 and 39 in activity portion 22, respectively, and engage objects 420 and 422 of the mechanism 400. As the lever 380 pivots, corresponding up and down motion is imparted to objects 420 and 422 as well.

[0046] The various movements of the components of the drive mechanism 500 are illustrated in FIG. 9. As the platform 310 rotates along the direction of arrow "A," the edge 314 presses against the lever end 371 that is in notch 354 and biased into engagement with edge 314 by spring 385, as discussed above. When a portion of the flange 312 with a larger dimension engages the lever end 371, the lever end 371 moves along the direction of arrow "B." As a result, the lever 370 pivots about its pivot axis along the direction of arrow "C" and the connection between lever 370 and lever 380 moves along the direction of arrow "D." This movement causes lever 380 to pivot about its pivot axis along the direction of arrow "E" against

the force of biasing spring 385. As lever 380 pivots along arrow “E,” actuating portion 390 coupled to object 422 moves object 422 up and actuating portion 392 moves object 420 down.

[0047] When the portion of the flange 312 in engagement with the lever end 371 is smaller, end 354 moves along the direction of arrow “F,” in part due to the force from biasing member 385. In particular, biasing member 385 biases lever 380 along the direction of arrow “I,” which causes the connection between levers 370 and 380 to move along the direction of arrow “H.” As a result, lever 370 moves along the direction of arrow “G,” which is permitted by the change in the dimension of the flange 312 with which the lever end 371 is engaged.

[0048] Thus, the platform 310 is continuously rotated as the motor 510 is driven. As the platform 310 rotates, the edge 314 in contact with lever 371 varies, which results in levers 370 and 380 moving in a see-saw manner due to the biasing force of spring 385. This movement results in the objects 420 and 422 moving up and down alternately as well.

[0049] Referring to FIGS. 10A and 10B, a schematic diagram of an embodiment of a circuit for the electronic system of the infant support structure 10 is illustrated. In this embodiment, the circuit 600 includes a controller 602 that is connected to the motor 510, an output device 630, such as a speaker, and several switches. In this embodiment, the electronic system includes a slide switch 618 that is used to select a mode of operation for the system. Another switch 620 is used to power the electronic system and for control of the volume.

[0050] In addition, the electronic system includes several input switches 610, 612, 614, and 616 that are connected or coupled to various elements on the activity surface 22 with which a child can play and contact. In this embodiment, some of the elements include a forest or tree, a pond, a dog house, and a car. Each of the switches 610, 612, 614, and 616 is a push switch that is closed when the child engages and moves the corresponding element, such as a portion of or an object relative to the forest, the pond, the dog house, or the car. When the child moves an

object, such as by swatting, slapping, hitting, moving, pushing, pulling, spinning, turning or otherwise engaging the object, the corresponding input switch is closed and the electronic system is activated.

[0051] The activation of the electronic system results in the motor 510 being driven for a period of time. In one embodiment, the activation of any of the switches 610, 612, 614, and 616 results in the motor 510 being driven for a predetermined period of time, such as 30 seconds. As the motor is activated, the drive mechanism 500 moves the movable portions of the entertainment mechanisms 200, 300, and 400 as described above. In another embodiment, the length of time that the motor 510 is driven after the actuation via an input switch varies. For example, actuation via one of the switches may result in a longer running time for the drive motor 510 than actuation via another one of the switches.

[0052] Referring to FIG. 11, an alternative embodiment of an infant support structure according to the invention is illustrated. In this embodiment, the infant support structure 700 includes a frame 710 that includes an activity surface or portion 720 and several legs, such as legs 722 and 724, that support the activity portion 720 relative to a support surface. The frame 710 also includes a seat 730 in which an infant or child, such as infant 732, can be placed. The seat 730 is pivotally or rotatably mounted to the activity portion 720. Accordingly, the infant 732 can turn and move the seat 730 to face and play with a different portion of the activity portion 720.

[0053] The activity portion 720 includes several different mechanisms that are movably coupled to the activity portion 720. Each of the mechanisms 740, 742, 744, 746, 748, and 750 is mounted for rotation. Located in the activity portion 720 is a drive mechanism similar to drive mechanism 500 described above. The drive mechanism of the infant support structure 700 is connected to each of the mechanisms 740, 742, 744, 746, 748, and 750 so that as the drive mechanism is operated, each of the mechanisms 740, 742, 744, 746, 748, and 750 rotates as well.

[0054] In this embodiment, the drive mechanism of the infant support structure 700 does not include a motor to impart motion to the drive mechanism. The drive mechanism is connected to the seat 730 by a gear arrangement that engages a set of teeth located on the seat 730. As the seat 730 rotates, the seat 730 rotates an input gear of the drive mechanism as well. The input gear is connected to each of the gears and/or pulleys that are connected to the mechanisms 740, 742, 744, 746, 748, and 750. Accordingly, as the seat 730 rotates, each of the mechanisms 740, 742, 744, 746, 748, and 750 rotates as well. In one embodiment, the seat 730 is rotatable in opposite directions and the direction in which the seat 730 is rotated determines the direction of rotation of the mechanisms 740, 742, 744, 746, 748, and 750.

[0055] Although the disclosed inventions are illustrated and described herein as embodied in one or more specific examples, it is nevertheless not intended to be limited to the details shown, since various modifications and structural changes may be made therein without departing from the scope of the inventions and within the scope and range of equivalents of the claims. In addition, various features from one of the embodiments may be incorporated into another of the embodiments.

[0056] It is to be understood that terms such as “left,” “right,” “top,” “bottom,” “front,” “rear,” “side,” “height,” “length,” “width,” “upper,” “lower,” “interior,” “exterior,” “inner,” “outer” and the like as may be used herein, merely describe points or portions of reference and do not limit the present invention to any particular orientation or configuration. Further, terms such as “first,” “second,” “third,” etc., merely identify one of a number of portions, components and/or points of reference as disclosed herein, and do not limit the present invention to any particular configuration or orientation.

What is claimed is:

1. An infant support structure, comprising:

a frame including a seat and an activity portion, the seat being configured to support an infant within the frame and above a supporting surface, the activity portion being located proximate to the seat; and

an entertainment mechanism coupled to the activity portion, the entertainment portion includes an electronic drive mechanism and an entertainment mechanism, the drive mechanism being actuated by an infant in the seat.
2. The infant support structure of claim 1, wherein the entertainment mechanism includes a movable element connected to the drive mechanism and an input switch coupled to the movable element, and the movement of the movable element by the infant actuates the input switch and activates the drive mechanism.
3. The infant support structure of claim 2, wherein the movable element is a first movable element, the entertainment mechanism includes a second movable element, and when activated, the drive mechanism causes the second movable element to move.
4. The infant support structure of claim 1, wherein the entertainment mechanism includes several movable elements coupled to the frame in the activity portion, and activation of the drive mechanism causes each of the movable elements to move relative to the frame.
5. The infant support structure of claim 2, wherein the seat is rotatably mounted within the frame.

6. The infant support structure of claim 5, wherein the activity portion includes an upper surface that surrounds the seat.

7. The infant support structure of claim 6, wherein the seat is positioned above the supporting surface such that a child in the seat can rotate the seat within the frame and with respect to the activity portion and the upper surface.

8. The infant support structure of claim 2, wherein the drive mechanism includes a motor and an output shaft, the motor being actuated by the input switch connected to the moveable element.

9. The infant support structure of claim 3, wherein the drive mechanism includes a motor, an output shaft, and a pulley, wherein the motor is actuated by the input switch connected to the moveable element and the pulley drives the movement of the second movable element.

10. The infant support structure of claim 3, wherein the drive mechanism includes a motor, an output shaft, and at least one gear, wherein the motor is actuated by the input switch connected to the moveable element and the at least one gear drives the movement of the second movable element.

11. An infant support structure, comprising:
a frame including a seat and an activity portion, the seat being configured to support an infant within the frame and above a supporting surface, the activity portion including an upper surface which surrounds the seat; and
an entertainment mechanism coupled to the activity portion, the entertainment portion includes an electronic drive mechanism and an entertainment mechanism, the drive mechanism being actuated by an infant in the seat.
12. The infant support structure of claim 11, wherein the entertainment mechanism includes a movable element operably coupled to the upper surface and connected to the drive mechanism and an input switch coupled to the movable element, and the movement of the movable element by the infant actuates the input switch and activates the drive mechanism.
13. The infant support structure of claim 12, wherein the movable element is a first movable element, the entertainment mechanism includes a second movable element also operably coupled to the upper surface, and when activated, the drive mechanism causes the second movable element to move.
14. The infant support structure of claim 11, wherein the entertainment mechanism includes several movable elements operably coupled to the upper surface, and activation of the drive mechanism causes each of the movable elements to move relative to the frame.
15. The infant support structure of claim 11, wherein the seat is rotatably mounted within the frame.

16. The infant support structure of claim 11, wherein the seat is positioned above the supporting surface such that a child in the seat can rotate the seat within the frame and with respect to the activity portion.

17. The infant support structure of claim 12, wherein the drive mechanism includes a motor and an output shaft, the motor being actuated by the input switch connected to the moveable element.

18. The infant support structure of claim 13, wherein the drive mechanism includes a motor, an output shaft, and a pulley, wherein the motor is actuated by the input switch connected to the moveable element and the pulley drives the movement of the second movable element.

19. The infant support structure of claim 13, wherein the drive mechanism includes a motor, an output shaft, and at least one gear, wherein the motor is actuated by the input switch connected to the moveable element and the at least one gear drives the movement of the second movable element.

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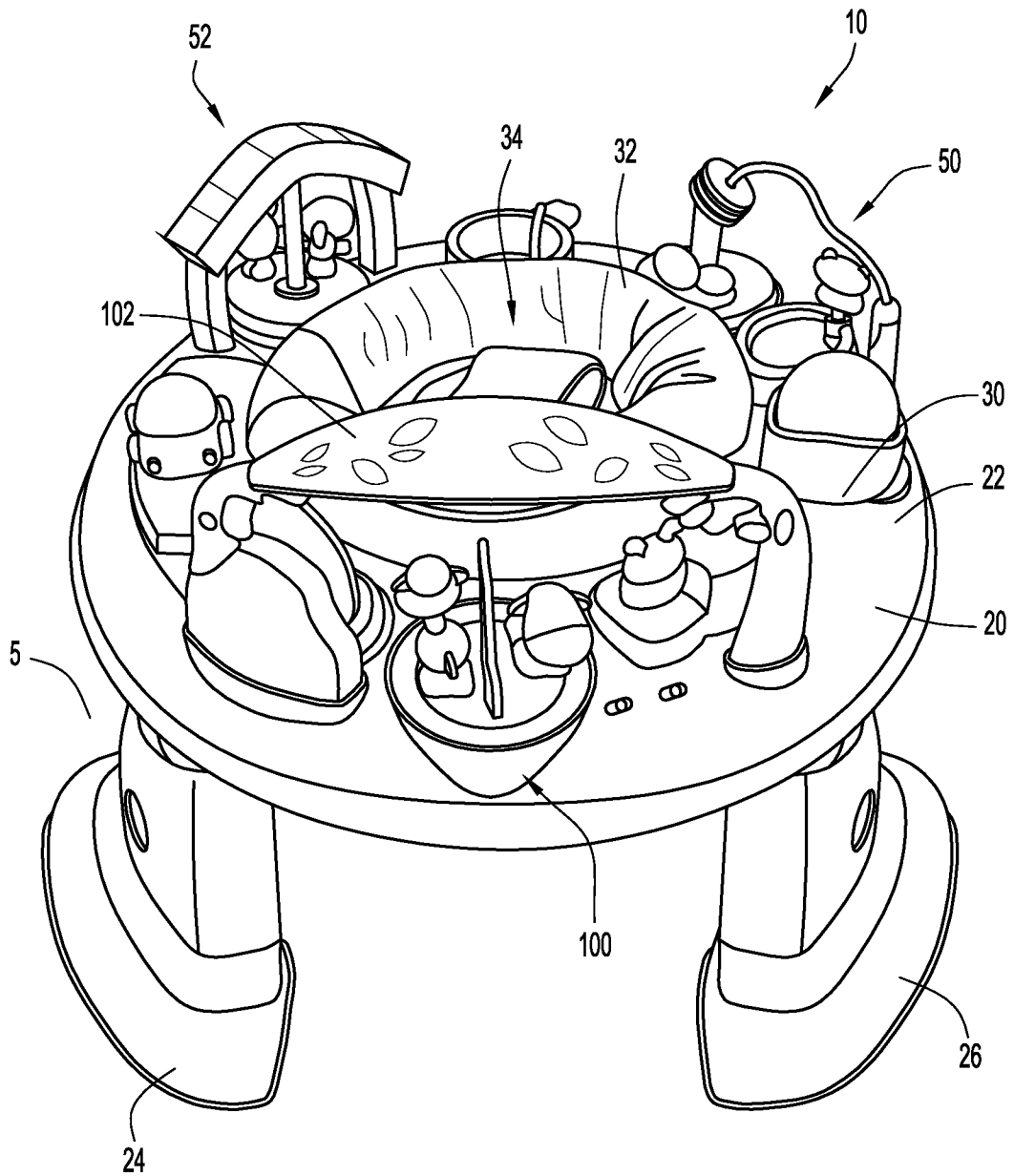


FIG.1

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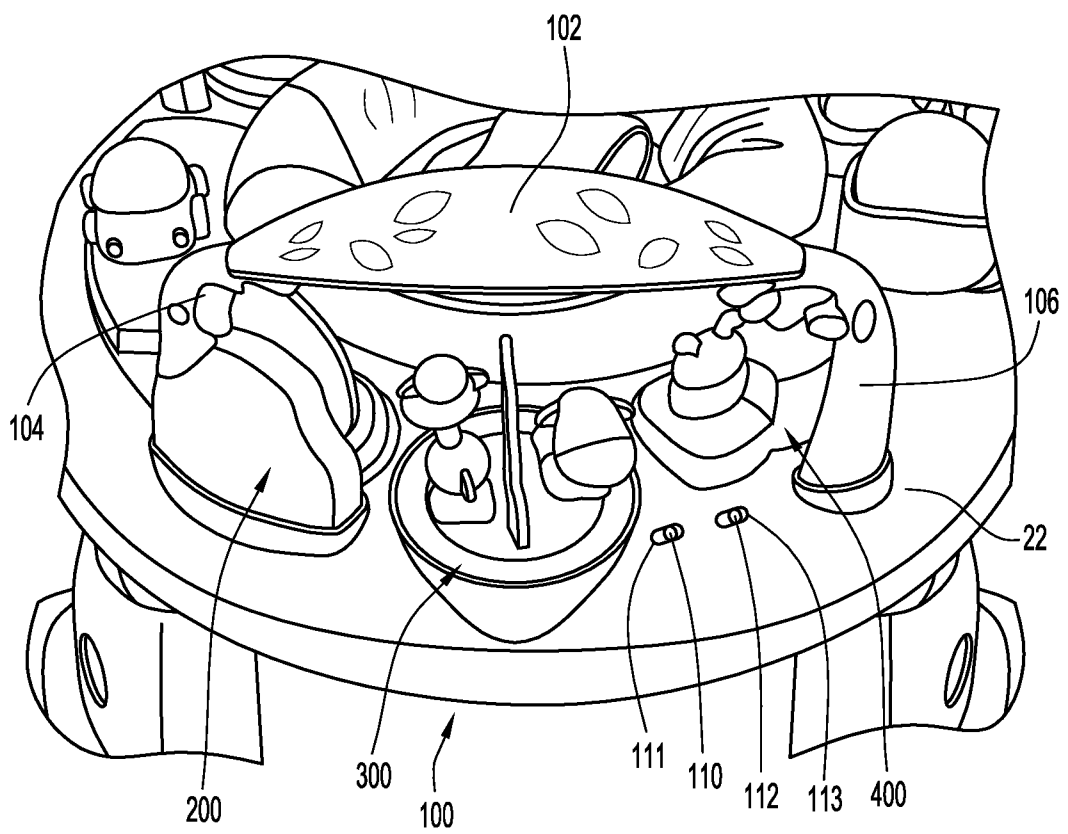


FIG.2

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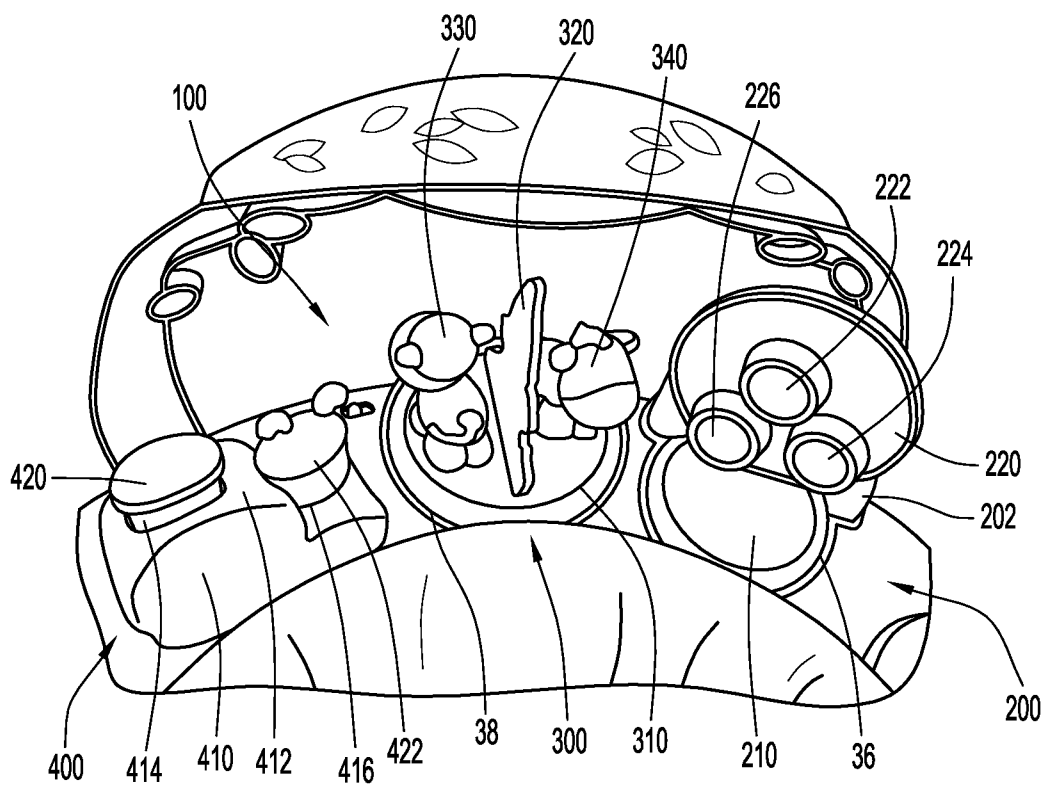


FIG.3

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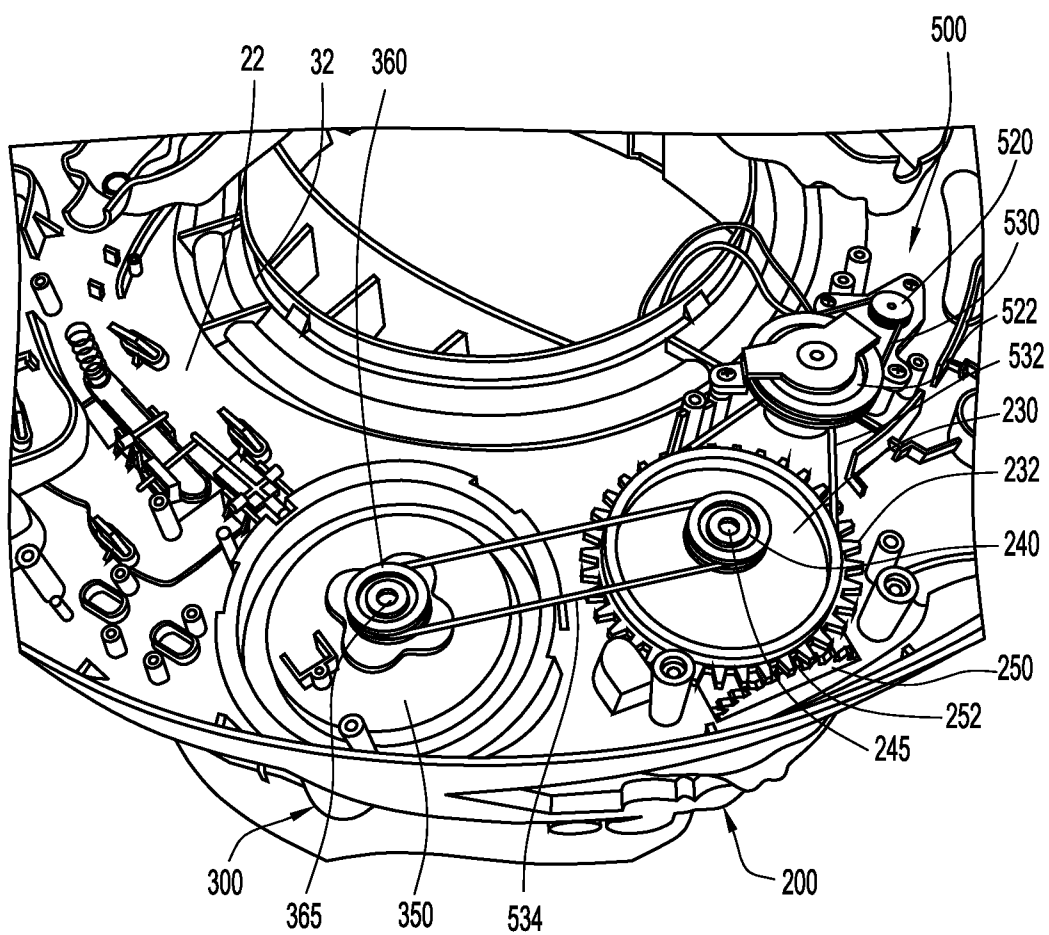


FIG.4

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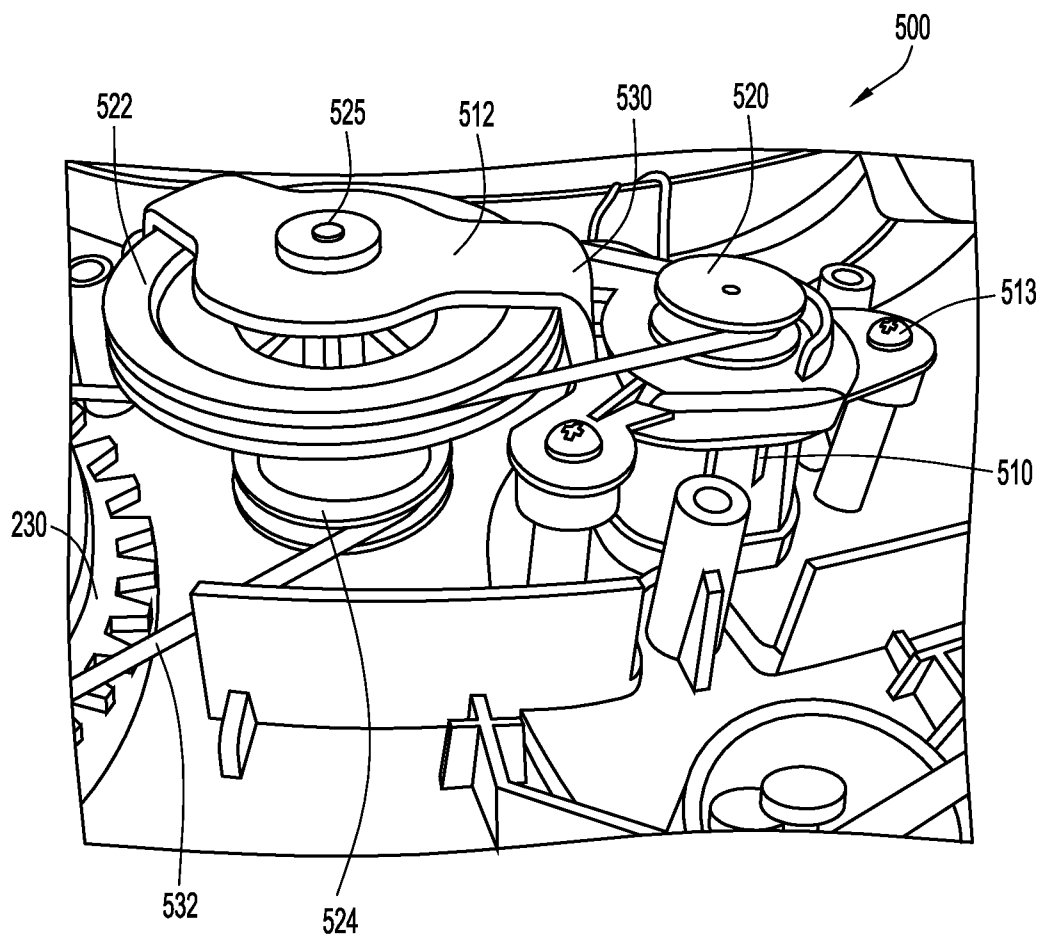


FIG.5

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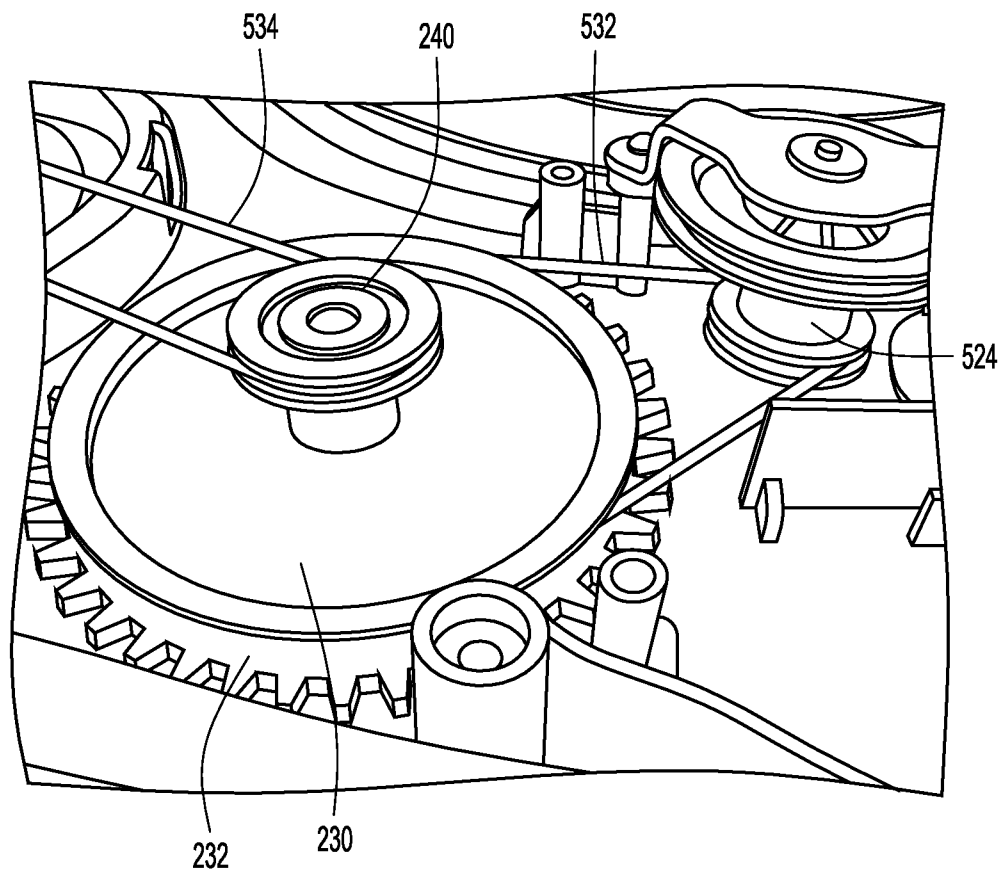


FIG.6

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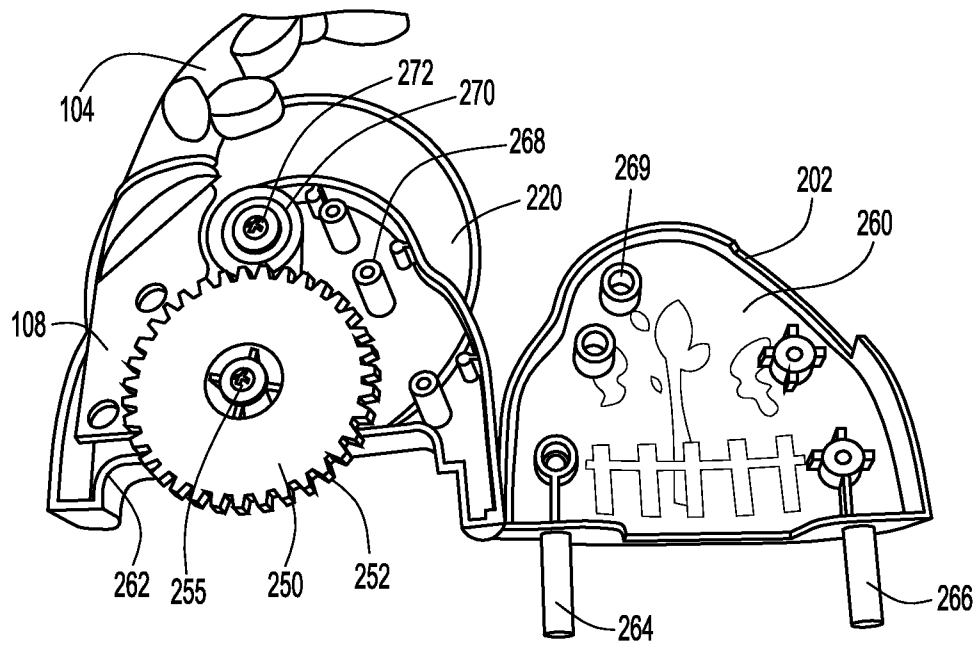


FIG.7

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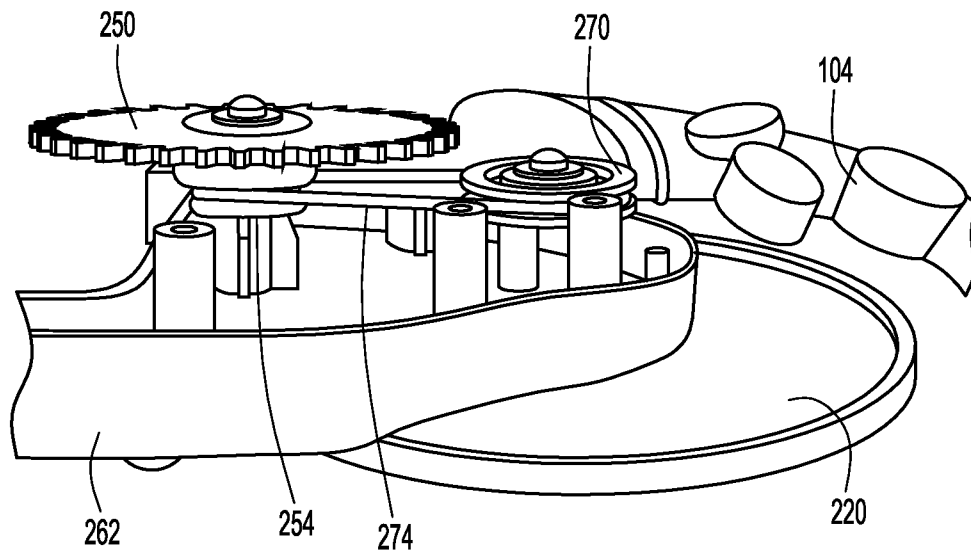


FIG.8

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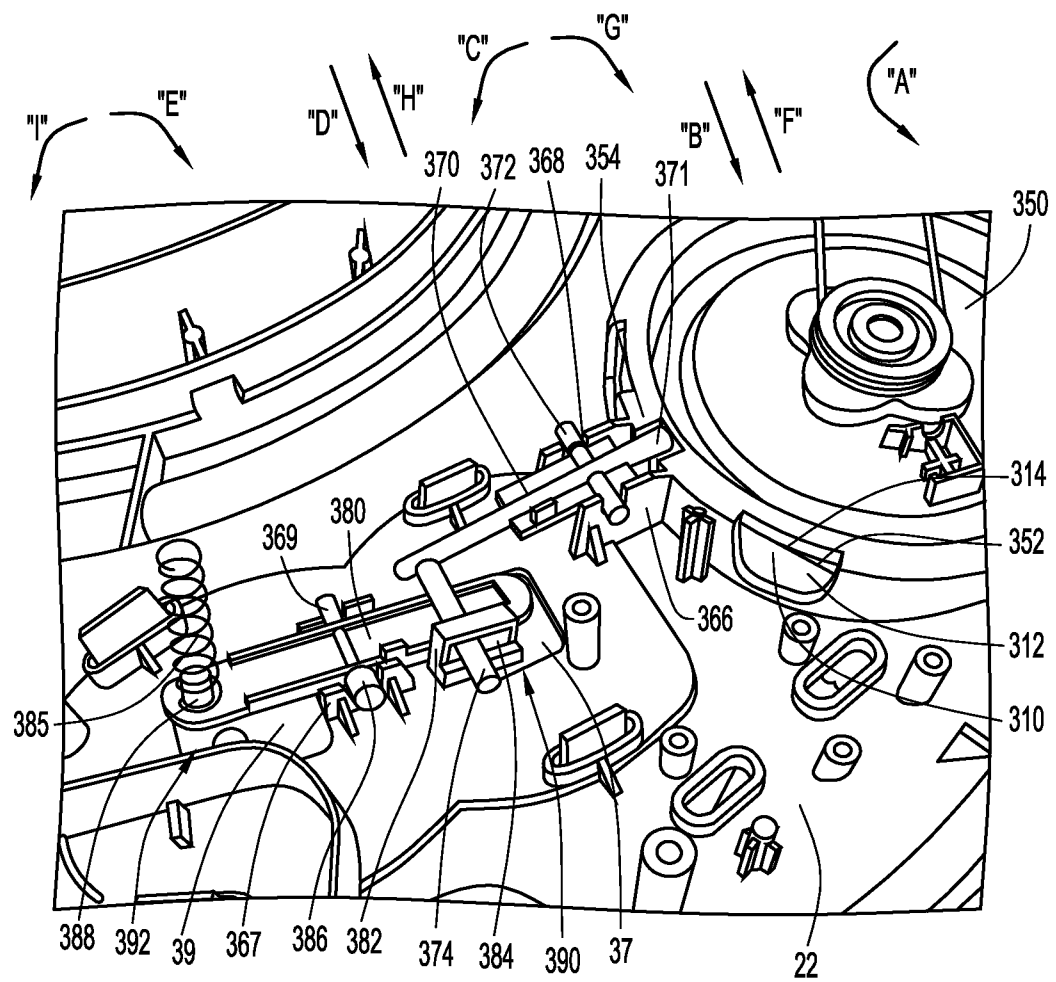


FIG.9

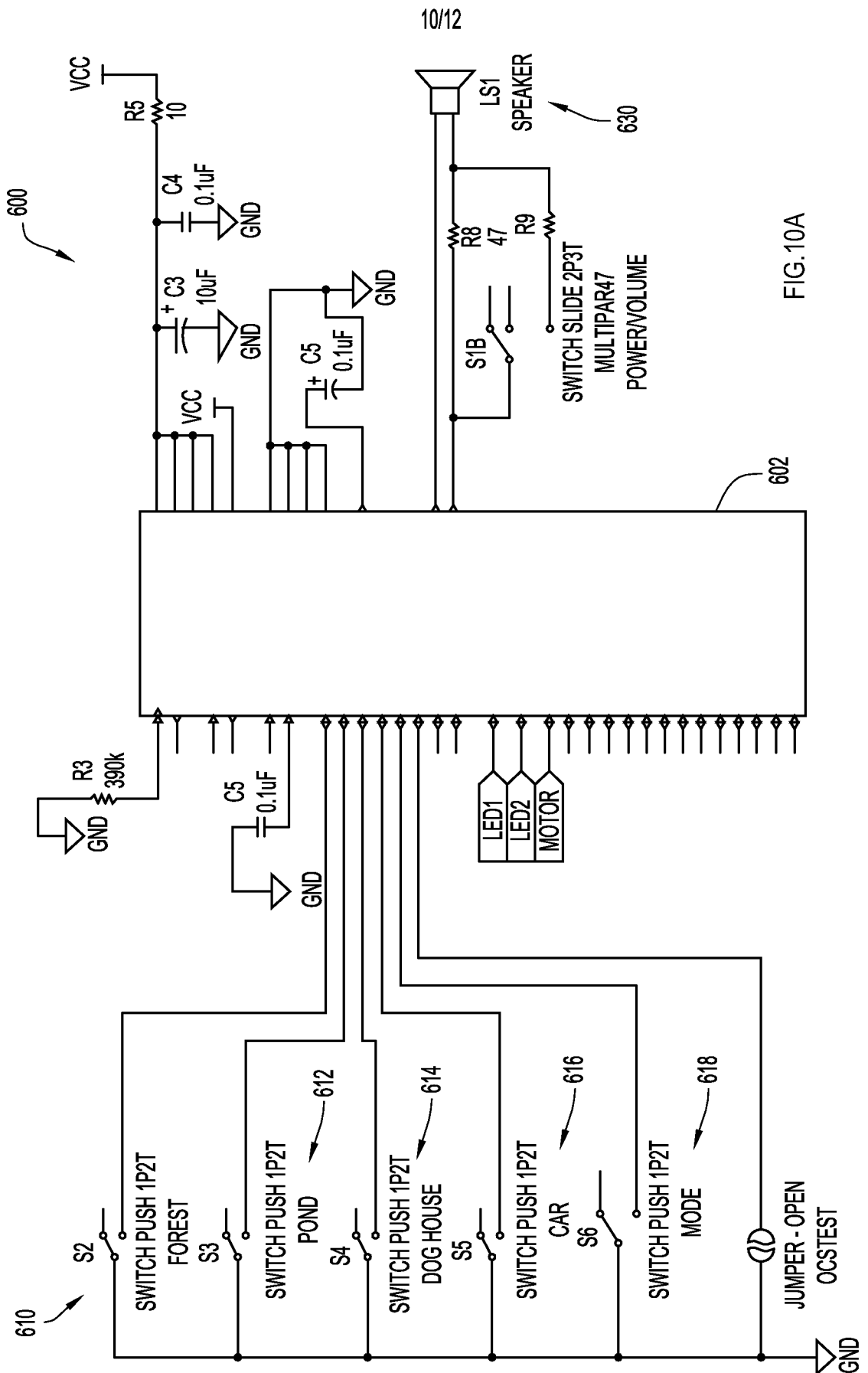


FIG. 10A

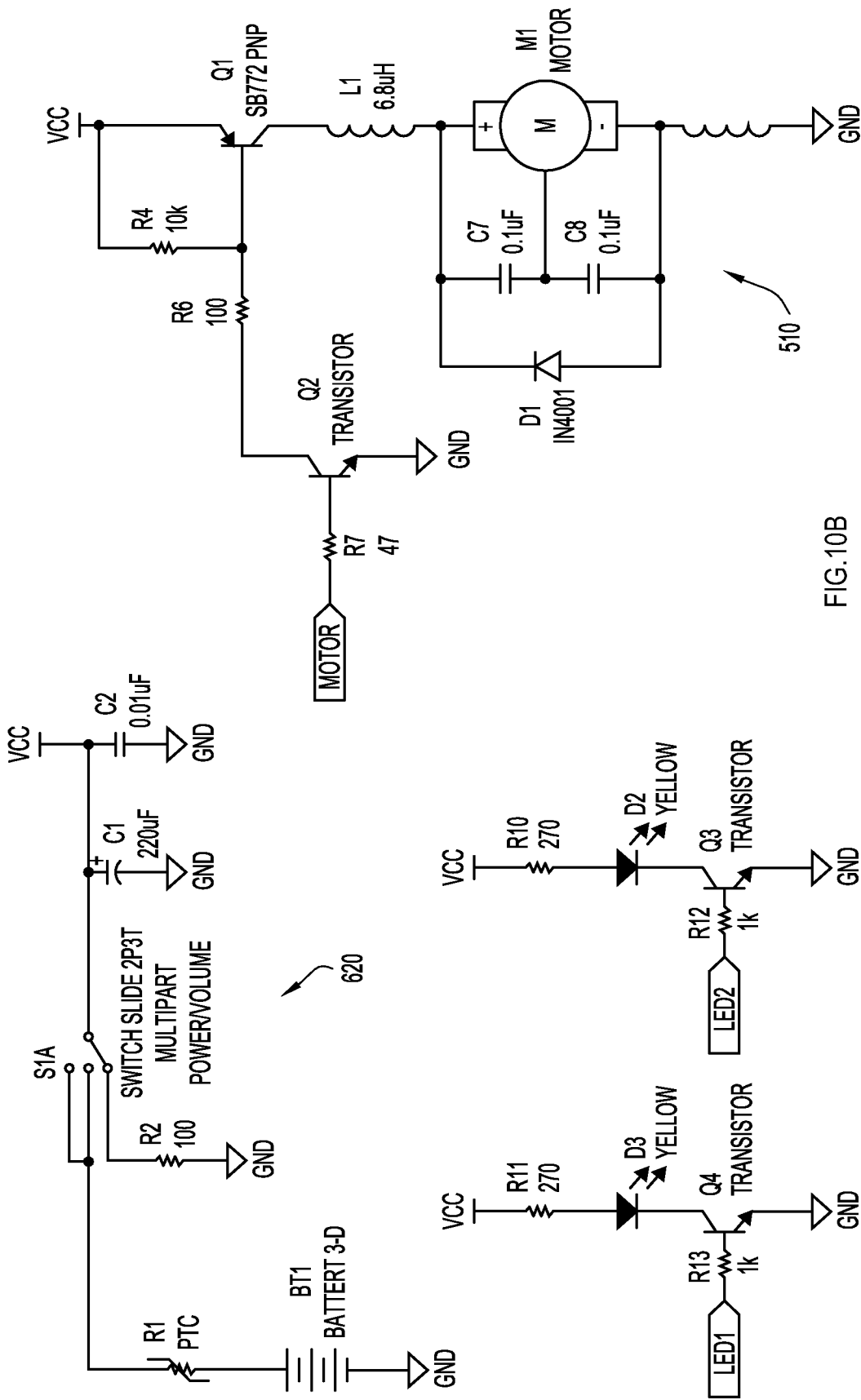


FIG.10B

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