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(71) Applicant: **MATTEL, INC.** [US/US]; 6000 Midlantic Drive, Mt. Laurel, NJ 08054 (US).

(72) Inventors: **MOLL, Joseph, Thomas**; 817 11th Avenue, Prospect Park, PA 19078 (US). **FOSBENNER, Mary, Ellen, Gertrude**; 702 Tenth Street, Riverton, NJ 08077 (US). **HENRY, Robert, Jude**; 438 Delaware Avenue, Riverside, NJ 08075 (US). **SISOLAK, Gregory, John**; 4802 Aberdeen Drive, Mt. Laurel, NJ 08054 (US). **SILVERIO, Brian, Edgar**; P.O. Box 4333, Burlington, VT 05406 (US). **NEEDHAM, Andrew**; 51 Ingersley Road, Bollington, Macclesfield, Cheshire SK10 5RE (GB). **GIDION, Simon, Michael, Denis**; 50 Paradise Street, Macclesfield, Cheshire SK11 6QN (GB).

(74) Agents: **HAMEL, Kevin, R.** et al.; Akin, Gump, Strauss, Hauer & Feld, L.L.P., One Commerce Square, 2005 Market Street, Suite 2200, Philadelphia, PA 19103 (US).

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(54) Title: TOY VEHICLE

(57) Abstract: A programmable toy dump truck having a motive chassis configured for itinerant maneuvers and a dump truck bed. A plurality of blocks, each having six sides, each side including at least one user program command for directing the maneuvers of the vehicle. Each side further includes a graphic representation of the programming command corresponding to the opposing side of the block. The truck further includes a plurality of slots in the dump truck bed for simultaneously receiving a plurality of the blocks. A plurality of sensors are positioned on the dump truck bed, at least one sensor corresponding to each slot. Each sensor includes at least one switch for receiving from the blocks the user program command. A processor is operationally connected to the sensors to receive the user program commands and to control the maneuvers of the vehicle. The processor further includes a plurality of default program commands that may be executed by the vehicle. A sound generation mechanism is operatively connected to the processor to be activated in response to at least one of the user program commands to generate an audible confirmation of each user program command as the user program command is received by the switch and to generate an audible signal when the processor executes one of the user program command and the default program command. A plurality of lights is operatively connected to the processor to be activated when the processor executes one of the commands.

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TITLE OF THE INVENTION

TOY VEHICLE

BACKGROUND OF THE INVENTION

The present invention relates to a toy vehicle and, more specifically, to toy vehicles that are programmable to follow a series of commands.

SUMMARY OF THE INVENTION

Briefly stated, the present invention is directed to a programmable toy vehicle having a motive chassis configured for itinerant maneuvers. The vehicle includes at least one programming object which has at least one user program command for directing the maneuvers of the vehicle. At least one slot is on the chassis to receive the at least one programming object. A separate sensor is associated with each slot to sense the user program command from the programming object in the slot. A processor is operationally connected with each sensor to receive the user program command from each programming object in each slot and with the motive chassis to control maneuvers of the vehicle in response to each user program command.

In an alternative embodiment, the programmable toy dump truck includes a dump truck bed and a motive chassis configured for itinerant maneuvers. The truck includes a plurality of blocks, each block having six sides, each side including at least one user program command for directing the maneuvers of the vehicle. Each side further includes a graphic representation of the programming command corresponding to the opposing side of the block. The program commands include forward-straight, forward-left turn, forward-right turn, U-turn, circle, and dump. The dump truck bed includes a plurality of slots for simultaneously receiving an equal plurality of the blocks. A plurality of sensors are positioned on the dump truck bed, at

least one sensor corresponding to each slot. Each sensor includes at least one switch for receiving from the blocks the user program command. A processor is operationally connected to the sensors to receive the user program commands and to control the maneuvers of the vehicle in response to the user program commands. The processor further includes a plurality of default program commands such that the default commands are executed by the vehicle if the user program commands are not provided to the sensors. A sound generation mechanism is operatively connected to the processor to be activated in response to at least one of the user program commands to generate an audible confirmation of each user program command as the user program command is received by the switch. The sound generator also generates an audible signal when the processor executes one of the user program command and the default program command. A plurality of lights is operatively connected to the processor to be activated when the processor executes one of the commands.

BRIEF DESCRIPTION OF THE DRAWINGS

The following detailed description of the preferred embodiments of the present invention, will be better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, there is shown in the drawings embodiments which are presently preferred. It is understood, however, that the present invention is not limited to the precise arrangements and instrumentalities shown. In the drawings which are diagrammatic:

Fig. 1 is a front perspective view of a toy vehicle according to the preferred embodiment of the present invention;

Fig. 2 is a side elevational view of the toy vehicle of Fig. 1;

Fig. 3 is a perspective view of an alternative embodiment of a dump truck bed in accordance with the present invention;

Fig. 4 is a perspective view of a block in accordance with the present invention;

Fig. 5 is a rear elevational view of the toy vehicle of Fig. 1 with the cargo bed in an unelevated position; and

Fig. 6 is a rear elevational view of the toy vehicle of Fig. 1 with the cargo bed in an elevated position.

DETAILED DESCRIPTION OF THE INVENTION

Certain terminology is used in the following description for convenience only, and is not limiting. The words "right," "left," "lower," and "upper" designate directions in the drawings to which reference is made. The words "inwardly" and "outwardly" refer to directions toward and away from, respectively, the geometric center of the toy vehicle and designated parts thereof. The terminology includes the words above specifically mentioned, derivatives thereof, and words of similar import. Additionally, the word "a" as used in the claims means "at least one."

Referring to Figs. 1-6, wherein like numerals represent like elements throughout, there are shown preferred embodiments of a toy vehicle according to the present invention generally designated 10. The toy vehicle 10 combines two types of games or toys that delight children, namely playing with large trucks, or other vehicles, and playing with blocks. The toy vehicle 10 allows a child to control the operations of the toy vehicle 10 without using a remote control. The preferred embodiment of the toy vehicle 10 is a dump truck having a cargo bed 20, as shown in Figs. 1-3, 5 and 6.

The toy vehicle 10 includes a motive chassis 11 including propulsion apparatus 13 (see Fig. 2) and steering apparatus 15 (see Fig. 2) of a type well known to those skilled in the art. The motive chassis 11 is configured for itinerant maneuvers including at least forward-straight, forward-left turn, forward-right turn, U-turn, circle, and dump-the-bed. Although it is contemplated that the itinerant maneuvers could be over a closed circuit (not shown), the

itinerant maneuvers of the toy vehicle 10 preferably are not over a closed circuit but may be performed by the vehicle 10 independently of a defined circuit.

The toy vehicle 10 includes at least one programming object 17, preferably in the form of a multi-sided object, most preferably a block 18. The vehicle 10 also includes at least one slot 16 on the chassis 11, preferably positioned within the cargo bed 20. The slots 16 are configured to receive the blocks 18. Each block 18 includes at least one user program command 19 for directing the maneuvers of the vehicle 10. Preferably, each side of the block 18 has at least one user program command 19. In a complementary fashion, the vehicle 10 includes a separate sensor 14 associated with each slot 16 to sense the user program command 19 from the block 18 in the slot 16. The vehicle 10 also includes a processor 21 operationally connected with each sensor 14 to receive the user program command 19 from each block 18 in each slot 16 and also operationally connected with the motive chassis 11 to control maneuvers of the vehicle 10 in response to each user program command 19.

As will be understood by those skilled in the art, upon reading the present disclosure, the processor 21, being operationally connected to the motive chassis 11, is also operationally connected to the propulsion and steering components 13, 15 (as shown in Fig. 2), thus permitting the processor 21 to control the itinerant maneuvers of the vehicle 10. The processor 21 preferably includes memory 23 to store the user program command 19 received from each block 18 whereby the blocks 18, once positioned on the slot 16, may be removed and the processor 21 will store and execute the user program command 19 notwithstanding the absence of blocks 18 in the slots 16. Thus, a child could place the block 18 onto the slot 16 and then remove the block 18 and the memory 23 in the processor 21 would store the user program commands 19.

The user program commands 19 on the blocks 18 preferably include at least one surface feature 24 located on each side of the block 18 to operatively couple with the sensor 14. The surface features 25 may include one or more concavities, protuberances, or flats, or a combination thereof, such that one or more of the surface features 24 are sensed by the sensor 14, thereby permitting the sensor to receive the user program command 19 from the block 18 and to pass that user program command 19 on to the processor 21. It should be understood that not every surface feature 24 will be sensed by the sensor 14, as will become more apparent from the discussion below. The user program commands 19 may represent any type of individual or combined maneuvers which the motive chassis 11 is configured to perform, and preferably include at least forward-straight, forward-left turn, forward-right turn, circle, U-turn, and dump-the-cargo-bed.

It is contemplated that the sensors 14 may be virtually any type of sensor that can receive a signal via direct contact or non-contact. For example, the sensor 14 may be a magnetic switch (not shown) and the user program command is a ferrous object (not shown) which actuates the magnetic switch. Alternatively, the sensor 14 may be an optical sensor (not shown) and the user program command 19 is a reflective surface (not shown). The sensor 14 may also be at least one electrical contact (not shown) and the user program command 19 would include at least one sending electrical contact (not shown) operatively connectable with the receiving electrical contact. Preferably, however, the sensors 14 are contact switches 12 which are configured to receive the user program commands 19.

Each block 18, having six sides or faces 22, preferably includes six different user program commands 19 that a child can program into the toy vehicle 10. On each face 22 of the block 18 is a graphic representation 26 (shown in Fig. 4) corresponding to the programming command 19 of the opposing side of the block 18. The graphic representation 26 generally

informs a child what function will be performed by the toy vehicle 10 in response to the block 18 being positioned with the particular graphic 26 oriented upwards on top of the cargo bed 20.

The toy vehicle 10 is controlled depending on the arrangement of programming objects 17 or blocks 18 in the cargo bed 20, which is part of the motive chassis 11. By placing the blocks 18 in the slots 16 within the cargo bed 20, the child is able to program the toy vehicle 10 by communicating user program commands 19 to the toy vehicle 10. Thus, children can control the toy vehicle 10 by changing the arrangement of blocks 18 on the cargo bed 20 as detailed below. While the preferred embodiment of the present invention uses four blocks 18 to preprogram commands into the toy vehicle 10, those of skill in the art will appreciate from this disclosure that the present invention is not limited to toy vehicles 10 having four blocks 18. For instance, a toy vehicle 10 can be designed that uses one, six, ten, or more blocks 18 depending only on the relative size of the blocks 18 and the cargo bed 20.

The user program command 19 is preferably transferred from the block 18 to the toy vehicle 10 by a combination of surface features 24 that are preferably positioned on each face 22 of the block 18. Depending on the pattern of surface features 24 on the face 22 that engages the slot 16, the processor 21 detects the activation of a specific contact switch 12, or group of switches 12, which are depressed by corresponding surface features 24 of the block(s) 18. In other words, surface features 24 on a given face 22 may correspond to all contact switches 12, or to only some of the contact switches 12, or to none of the contact switches 12. Thus, the processor 21, by deleting which switches 12 within a particular slot 16 are depressed or activated, will translate the pattern of surface features 24 into appropriate signals to the various motion, sound and light components of the vehicle 10.

Surface features 24 representing a particular command are preferably positioned on the face 22 of the block 18 that is opposite from the face 22 that bears the corresponding

graphic 26 illustrating the specific user program command 19. This allows the child to visually see the user program command 19 that will be programmed into the toy vehicle 10 by looking at the graphic representation 26 on the top of the block 18 after the block 18 has been properly positioned on the cargo bed 20. Thus, the combination of surface features 24 and graphic representations 26, allows the child to position the blocks 18 with the graphic representations 26 facing upward that represent the particular commands selected by the child while simultaneously conveying such commands to the toy vehicle 10.

The surface features 24 interact with the slot 16 in the cargo bed 20 (as shown in Figs. 1, 2, 5 and 6). Each slot 16 preferably contains four contact switches 12. Depending on the number and/or configuration of surface features 24 that engage the contact switches 12, the toy vehicle 10 processes a different user program command 19. Thus by placing surface features 24 on the portion of the face 22 of the block 18 that contacts the cargo bed 20, a command can be conveyed to the toy vehicle 10.

While the preferred embodiment uses four contact switches 12 that are positioned in the slot 16, it is understood by those of skill in the art that other numbers of switches 12 can be positioned in the slot 16. For example, referring to Fig. 3, a second embodiment of the toy vehicle 10 has a cargo bed 20 that uses slots 16 that have four contact switches 12 that are each positioned in a corner of each slot 16.

The preferred embodiment of the toy vehicle 10 uses the following pattern of surface features 24 to communicate user program commands 19 into the toy vehicle 10. The detection by the toy vehicle 10 of surface features (i.e., no protuberance or concavity and therefore no contact switches 12 activated) indicates a go straight command (during the execution of which horn is preferably randomly activated); the detection of one surface feature 24 indicates a turn to the right command; the detection of two surface features 24 indicates a

turn to the left command; the detection of three surface features 24 indicates a make a full circle command (during the execution of which the appropriate turn signal is preferably activated); the detection of four surface features 24 indicates a make a U-turn command (during the execution of which the appropriate turn signal is preferably activated); the detection of another surface feature pattern (such as diametrically opposed surface features 24) indicates a dump the blocks command (during the execution of which the toy vehicle 10 preferably backs up about 12 inches while generating a back up beeping sound, and generates an air horn sound. The toy vehicle 10 is preferably designed to always turn in one direction while moving in a circle and to always turn in the opposite direction while performing a U-turn. However, those of skill in the art will appreciate from this disclosure that the toy vehicle 10 can alternate the turning directions used for both the U-turns and the circle patterns. Since, in the preferred embodiment, the lack of surface features 24 represents the straight command, if any or all blocks 18 are missing the toy vehicle 10 will preferably go straight once activated. Alternatively, the toy vehicle 10 can be configured to perform random maneuvers if the toy vehicle 10 is activated without any blocks 18 being positioned on the cargo bed 20.

While the above description of a preferred user program command 19 coding method details a specific pattern of surface features 24 that correspond to specific user program commands 19, those of skill in the art will appreciate from this disclosure that other patterns of surface features 24 can be used to convey user program commands 19 and that other maneuvers can be performed by the toy vehicle 10 without departing from the scope of the present invention. For example, five, seven, or ten contact switches 12 can be used in the slots 16 to allow more complicated patterns of surface features 24 to convey various user program commands 19. This would allow each block 18 to have different user program commands 19 that correspond to different maneuvers (i.e., with four blocks 18 up to 24 different user program

commands 19 could be provided for a child to choose from). Likewise, other maneuvers, such as figure eights, etc. can also be performed by the toy vehicle 10. Alternatively, each block 18 could use five or more surface features 24 to encode the various user program commands 19 for the toy vehicle 10 to perform. Alternatively, small batteries may be contained in each of the blocks 18 and user program commands 19 may be transferred from the blocks 18 directly to the toy vehicle 10 by electrical contacts (not shown) on the blocks 18 and in the slots 16.

While the preferred embodiment of the toy vehicle 10 uses blocks 18 as three dimensional static programming objects 17 to transfer user program commands 19 to the toy vehicle 10, those of skill in the art will appreciate that other three dimensional (multi-sided) objects may be used without departing from the spirit and scope of the present invention. For example, pyramid-shaped objects, multi sided three-dimensional objects, such as eight, ten, twelve, or twenty sided programming objects 17 can be used to increase the number of user program commands 19 from which a child can select.

The order in which the user program commands 19 are executed by the vehicle 10 is preferably preprogrammed into the processor 21. Alternatively, the user program commands 19 are executed in the time order in which the user program commands 19 are received by the slots 16.

As detailed above, each slot 16 in the cargo bed 20 preferably has four switches 12 that are each contained in the slot 16. In addition to housing contact switches 12, each slot 16 functions as a key that forces each block 18 to be correctly oriented such that the child can correctly insert the block 10 into the slot 16 on the cargo bed 20. The cargo bed 20 preferably has four slots 16. However, those of skill in the art will appreciate from this disclosure that any number of slots 16 can be used depending on the number of blocks 18 used with the toy vehicle 10.

The vehicle 10 preferably includes a sound generator 30 operatively connected to the processor 21 to activate in response to at least one of the user program commands 19. Upon placing each block 18 onto a slot 16 on the cargo bed 20, the child preferably receives a confirmation from the vehicle 10 in the form of an audible confirmation of the name of the particular user program command 19 as the user program command 19 is received by the sensor. Thus, the toy vehicle 10 will announce the name of the user program command 19 that is detected from the surface features 24 on the block 18 to inform a child which user program command 19 has been programmed into the toy vehicle 10. Once the toy vehicle 10 has recited the user program command 19 entered, the block 18 can be removed before the toy vehicle 10 is activated and the toy vehicle 10 will still process the entered user program command 19 as if the block 10 were still placed on the slot 16 in the same manner as when the block 18 was positioned on the slot 16. Additionally, the audible recitation of each user program command 19 is also repeated as the toy vehicle 10 is performing the maneuver corresponding to the specific user program command 19.

The slots 16 preferably are pre-assigned a sequence of execution. At least one visible numeric indicator 32 is preferably included proximate to each slot 16 in the cargo bed 20, preferably within the slot 16, the numeric indicator 32 identifying the position within the predetermined sequence of the slot 16 proximal to the indicator 32. In other words, the order in which the user program commands 19 are executed is as displayed by the four numeric indicators 32 on the cargo bed 20, rather than the order that the blocks 18 were placed into the cargo bed 20. However, those of skill in the art will appreciate from this disclosure that the user program commands 19 could be executed in the order in which the blocks 18 are placed into the cargo bed 20 without departing from the scope of the present invention.

Once the toy vehicle 10 is activated, the toy vehicle 10 preferably sits idling for a few seconds, the horn blows, the first user program command 19 is audibly recited by the toy vehicle 10, and the toy vehicle 10 then proceeds on the path designated by the various user program commands 19. As long as the toy vehicle 10 is activated, the toy vehicle 10 will preferably generate the sound of a running engine. The toy vehicle 10 is preferably activated by the pressing of a GO button (not shown). However, while it is preferable to use the GO button to initiate the performance of the user program commands, those of skill in the art will appreciate from this disclosure that the toy vehicle 10 can be sound activated. In this regard, the vehicle 10 may include a sound receiver 36 (Fig. 2) operatively connected to the processor 21 to receive a voice command whereby in response to the sound receiver receiving the voice command the processor 21 initiates execution of user program commands 19. For example, once the blocks 18 are loaded onto the cargo bed 20, a child can activate the toy vehicle 10 by shouting "let's roll," or any other loud command. The toy vehicle 10 will preferably only monitor the surroundings for sound activation when the vehicle motor sounds are not activated.

Additionally, sound activation can be used after the toy vehicle 10 has completed the maneuvers that have been programmed, thus causing the toy vehicle 10 to return to its starting position. For example, a child can shout "come on back," or any loud command, and the toy vehicle 10 will preferably perform a K-turn and perform the user program commands 19 in reverse order (not including the dumping of the cargo bed 20). This creates a sense of magic about the toy vehicle 10 for a child while further simplifying the use of the toy vehicle 10.

It is contemplated that the memory 23 of the processor 21 includes at least one, and preferably a plurality, of default program commands such that the default commands are executed by the vehicle 10 in addition to the user program commands 19. Preferably, the

default program commands are reprogrammable by the user. Alternatively, the vehicle 10 includes a predefined set of default program commands from which the processor 21 selects at random a plurality of default program commands which are executed by the vehicle 10 in the absence of or in addition to user program commands 19.

When the toy vehicle 10 first receives either a manual or verbal activation, the toy vehicle 10 will idle for a few moments and then preferably perform the user program commands 19. Thus, the vehicle 10 can, after idling for a few moments, "read" the blocks 18 on each of the slots 16 in a predetermined block receiving pad order (as shown by the numeric indicators 32, one through four, that are positioned on the cargo bed 20) and perform, in that order, the maneuvers coded by the inserted blocks 18. As the toy vehicle 10 performs the various maneuvers, the toy vehicle 10 audibly recites the name of each particular maneuver being performed. For example, as the vehicle is turning right the toy vehicle 10 preferably generates an adult voice saying "TURN RIGHT" (or the equivalent). As detailed above, it is preferable that the blocks 18 not have to be placed into the cargo bed 20 positions in any particular order. Rather, the maneuvers will be performed by the toy vehicle 10 according to the numbering of the slots 16 as shown by the numeric indicators 32. Alternatively, the user program commands 19 are executed in the time order in which the user program commands 19 are received by the slots 16.

Furthermore, the blocks 18 can be used as cargo, but preferably do not have to be left in place. Once the toy vehicle 10 has acknowledged the user program command 19 by reciting entered user program command 19, the corresponding block 18 can be removed and the cargo bed 20 filled with other objects. Once the toy vehicle 10 is activated, the toy vehicle 10 will perform the user program commands 19 that have already been entered. If all the blocks 18 are lost or if no programming is done with the blocks 18, the vehicle 10 will preferably

execute default program commands when the GO button is pressed. As mentioned above, it is preferable that if only some of the slots 16 receive blocks 18, that the missing user program commands 19 will select at random default program commands. Alternatively, those of skill in the art will appreciate from this disclosure that any command can be used as the default program command for the toy vehicle 10 to perform when a slot 16 is not programmed prior to activation of the toy vehicle 10. Additionally, the toy vehicle 10 can be programmed by the parent of a child to use a selected command as a default program command.

In an alternative embodiment, there are working lights and sounds associated with the various maneuvers performed by the toy vehicle 10. The vehicle 10 preferably includes a plurality of lights 34 operated connected to the processor 21 to be activated by the processor 21 when the processor 21 executes select user program commands or default program commands. The lights 34 preferably include at least headlights 34a and tail lights 34b. When the toy vehicle 10 is moving, there will preferably be an associated engine sound. Additionally, when the vehicle turns, the tail lights 34b indicate the direction that the toy vehicle 10 is turning and when the toy vehicle 10 stops the tail lights 34b both illuminate. The tail lights 34b preferably act as both brake lights and the turn signals. When the toy vehicle 10 backs up there is preferably a backing up type of beeping sound similar to that associated with full-sized trucks, and when the toy vehicle 10 dumps the carried cargo sounds representing tumbling objects will be generated.

The toy vehicle 10 also has a demonstration mode that functions as "an invisible salesperson." Due to the many functions and options that can be performed by the toy vehicle 10, it is difficult to convey all of the concepts that are included in the toy vehicle 10 while the vehicle is packaged inside of a box (not shown). The "invisible salesperson" function would be activated by the "90" button. In an alternative embodiment, the toy vehicle 10 can be

preprogrammed to briefly explain in 10-15 seconds the various features of the toy vehicle 10. The various features may be explained using an excited child's voice. In a further alternative embodiment, the "invisible salesperson" feature of the toy vehicle 10 could be activated when someone speaks loudly toward the toy vehicle 10 or when enough noise is generated proximate to the packaged toy vehicle 10 by children that are in the isle proximate to the toy vehicle 10. The brief introduction is powered by a battery power source.

While the preferred embodiment of the toy vehicle 10 has been described with reference to a dump truck, those of skill in the art will appreciate from this disclosure that various types of toy vehicles may be used with the present invention. For instance, the toy vehicle 10 may be a police car, a fire truck, an ambulance, a trash truck, a space shuttle, an airplane, a sports car, a baby stroller, a convertible car, a golf cart, a bus, a train, a flying saucer, and a racing car. Depending on the particular type of toy vehicle used, the blocks 18 will be positioned on a portion of the toy vehicle 10 that has a slot 16 to receive the block 18. Additionally, depending on the particular type of toy vehicle chosen, a different special function (such as the dumping of blocks can be performed) is performed, such as the opening and closing of car doors, the flashing of headlights, or the activation of additional lights and sounds.

It is recognized by those skilled in the art that changes may be made to the above-described embodiments of the invention without departing from the broad inventive concept thereof. It is understood, therefore, that this invention is not limited to the particular embodiments disclosed, but is intended to cover all modifications which are within the spirit and scope of the invention as defined by the appended claims.

CLAIMS

I claim the following:

1. A programmable toy vehicle, the vehicle comprising:

a motive chassis configured for itinerant maneuvers;

at least one programming object, the programming object including at least one user program command for directing the maneuvers of the vehicle;

at least one slot on the chassis configured to receive the at least one programming object;

a separate sensor associated with each slot to sense the user program command from the programming object in the slot; and

a processor operationally connected with each sensor to receive the user program command from each programming object in each slot and with the motive chassis to control maneuvers of the vehicle in response to each user program command.

2. The programmable toy vehicle of claim 1 wherein the programming object is a multi-sided object, each side having at least one user program command.

3. The programmable toy vehicle of claim 2 wherein the programming object is a block.

4. The programmable toy vehicle of claim 3 wherein each side of the block includes a graphic representation corresponding to the programming command of the opposing side of the block.

5. The programmable toy vehicle of claim 1 wherein the sensor includes at least one switch configured to receive the user program commands.

6. The programmable toy vehicle of claim 5 wherein the user program commands include at least one surface feature located on each side of the programming object to operatively couple with the switch.

7. The programmable toy vehicle of claim 6 wherein the switch is a contact switch which is actuated by the surface feature.

8. The programmable toy vehicle of claim 1 further including a sound generator operatively connected to the processor to activate in response to at least one of the user program commands.

9. The programmable toy vehicle of claim 8 wherein the sound generator generates an audible confirmation of each user program command as the user program command is received by the sensor.

10. The programmable toy vehicle of claim 8 wherein the sound generator generates an audible announcement of a user program command as that user program command is executed by the vehicle.

11. The programmable toy vehicle of claim 10 further including a plurality of lights operatively connected to the processor to be activated by the processor when the processor executes select user program commands.

12. The programmable toy vehicle of claim 1 further including a plurality of lights operatively connected to the processor to be activated by the processor in response to at least one of the user program commands.

13. The programmable toy vehicle of claim 12 wherein the lights include headlights and tail lights.

14. The programmable toy vehicle of claim 1 wherein the user program commands include forward-straight, forward-left turn, and forward-right turn maneuvers.

15. The programmable toy vehicle of claim 14 wherein the user program commands further include U-turn, circle and dump-the-bed.

16. The programmable toy vehicle of claim 1 further including at least a second slot, the slots having a predetermined sequence of execution of the user program command received by each.

17. The programmable toy vehicle of claim 16 further including at least one visible numeric indicator on the vehicle proximal to each slot, the numeric indicator identifying the position within the predetermined sequence of the proximal slot.

18. The programmable toy vehicle of claim 1 wherein the processor includes memory to store the user program command received from each programming object whereby the programming objects, once positioned on the slot, may be removed and the processor will store and execute the user program command notwithstanding the absence of the programming object in the slot.

19. The programmable toy vehicle of claim 1 wherein the user program commands are executed in the time order in which the user program commands are received by the slots.

20. The programmable toy vehicle of claim 1 wherein the processor includes at least one default program command such that the default commands are executed by the vehicle.

21. The programmable toy vehicle of claim 20 wherein the default program command is reprogrammable.

22. The programmable toy vehicle of claim 1 further comprising a predefined set of default program commands from which the processor selects at random a plurality of default program commands which are executed by the vehicle.

23. The programmable toy vehicle of claim 22 further including a sound generator operatively connected to the processor for generating an audible announcement corresponding

to one of the user program command and the default program command as the one of the user program command and default program command is executed by the processor.

24. The programmable toy vehicle of claim 1 further including a sound receiver operatively connected to the processor to receive a voice command whereby in response to the sound receiver receiving the voice command the processor initiates execution of the user program commands.

25. The programmable toy vehicle of claim 1 wherein the vehicle is a dump truck and the chassis includes a dump truck bed, the at least one slot being positioned within the bed.

26. A programmable toy dump truck, the truck comprising:

a motive chassis configured for itinerant maneuvers, the chassis including a dump truck bed;

a plurality of blocks, each block having six sides, each side including at least one user program command for directing the maneuvers of the vehicle, each side further including a graphic representation of the programming command corresponding to the opposing side of the block, the program commands including forward-straight, forward-left turn, forward-right turn, U-turn, circle, and dump-the-bed;

a plurality of slots in the dump truck bed for simultaneously receiving an equal plurality of the blocks;

a plurality of sensors positioned on the dump truck bed, at least one sensor corresponding to each slot, each sensor including at least one switch for receiving from the blocks the user program command;

a processor operationally connected to the sensors to receive from the sensors the user program commands and to control the maneuvers of the vehicle in response to the user program commands, the processor further including a plurality of default program commands such that

the default commands are executed by the vehicle if the user program commands are not provided to the sensors;

a sound generation mechanism operatively connected to the processor to be activated in response to at least one of the user program commands to generate an audible confirmation of each user program command as the user program command is received by the switch and to generate an audible signal when the processor executes one of the user program command and the default program command; and

a plurality of lights operatively connected to the processor to be activated when the processor executes one of the commands.

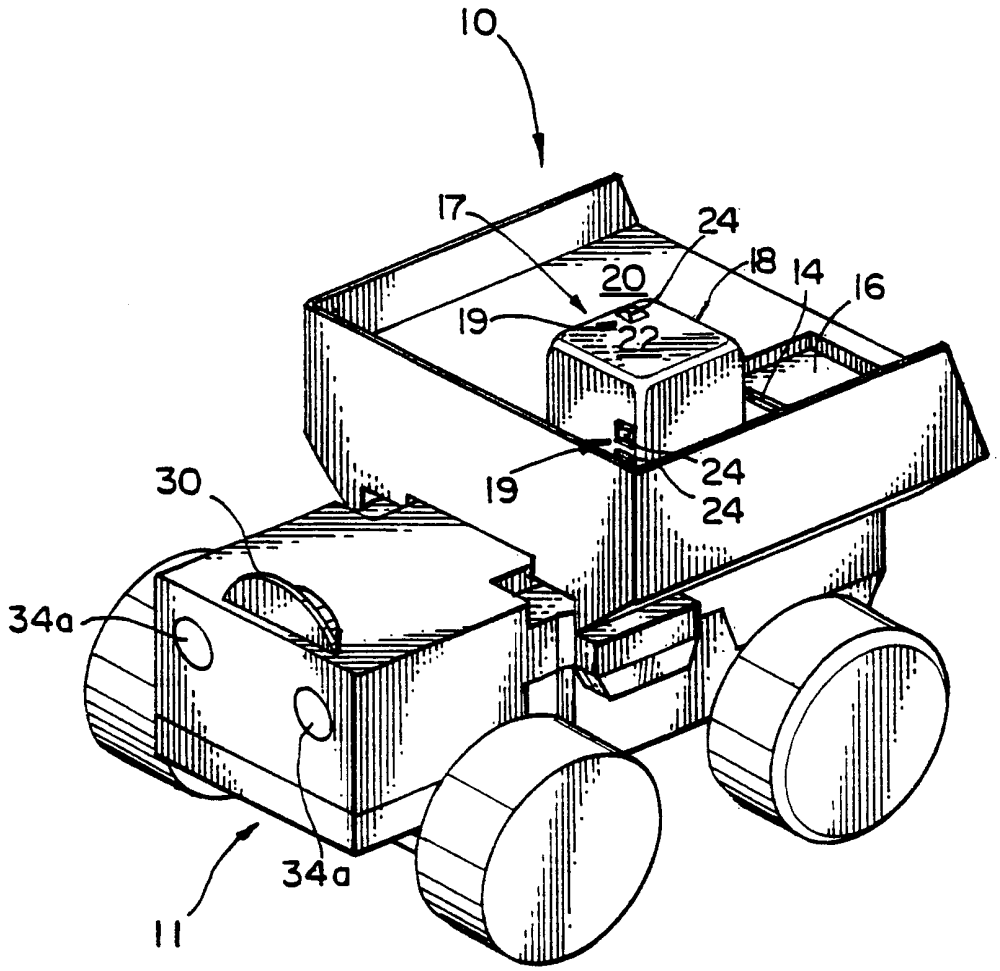

FIG. 1

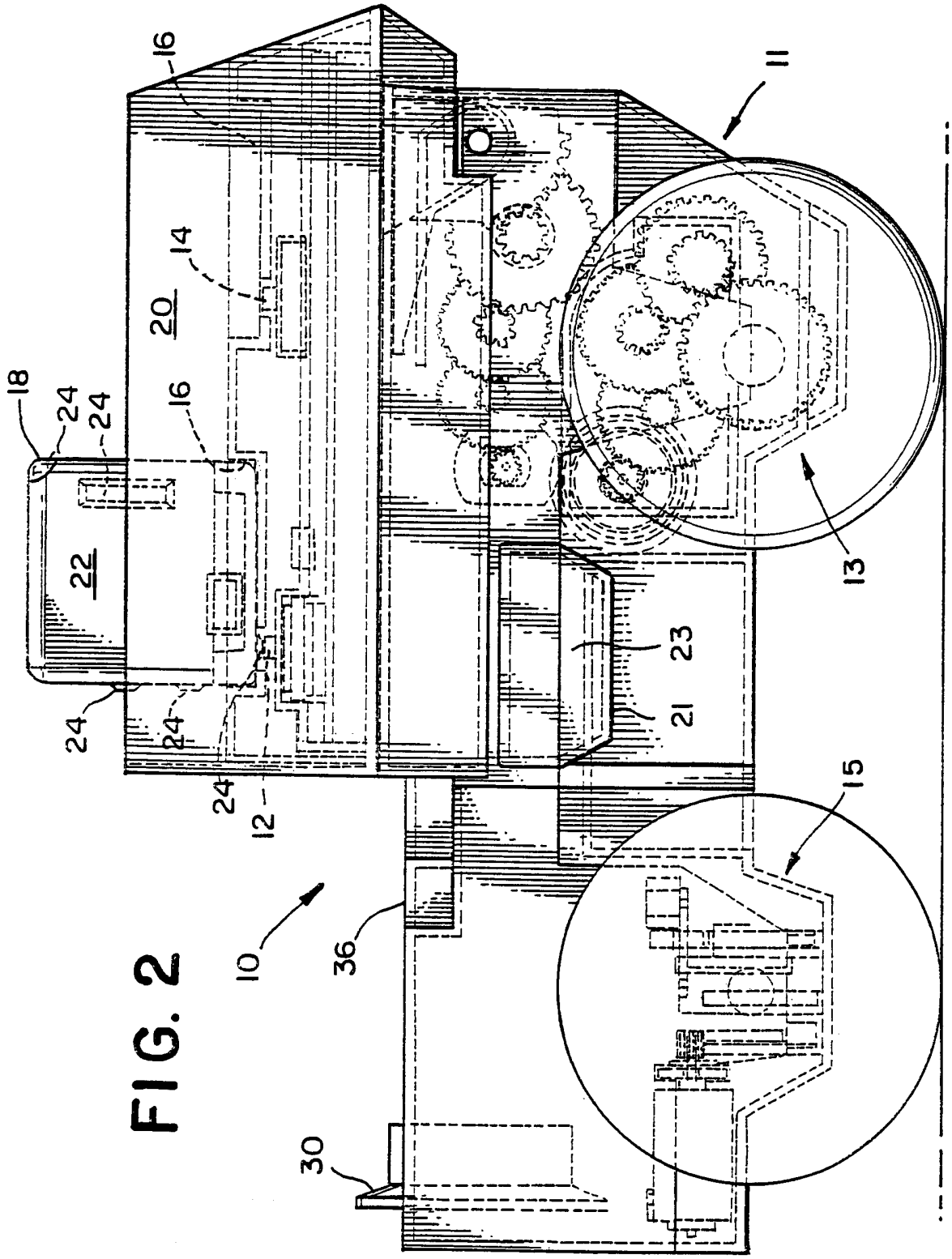

FIG. 2

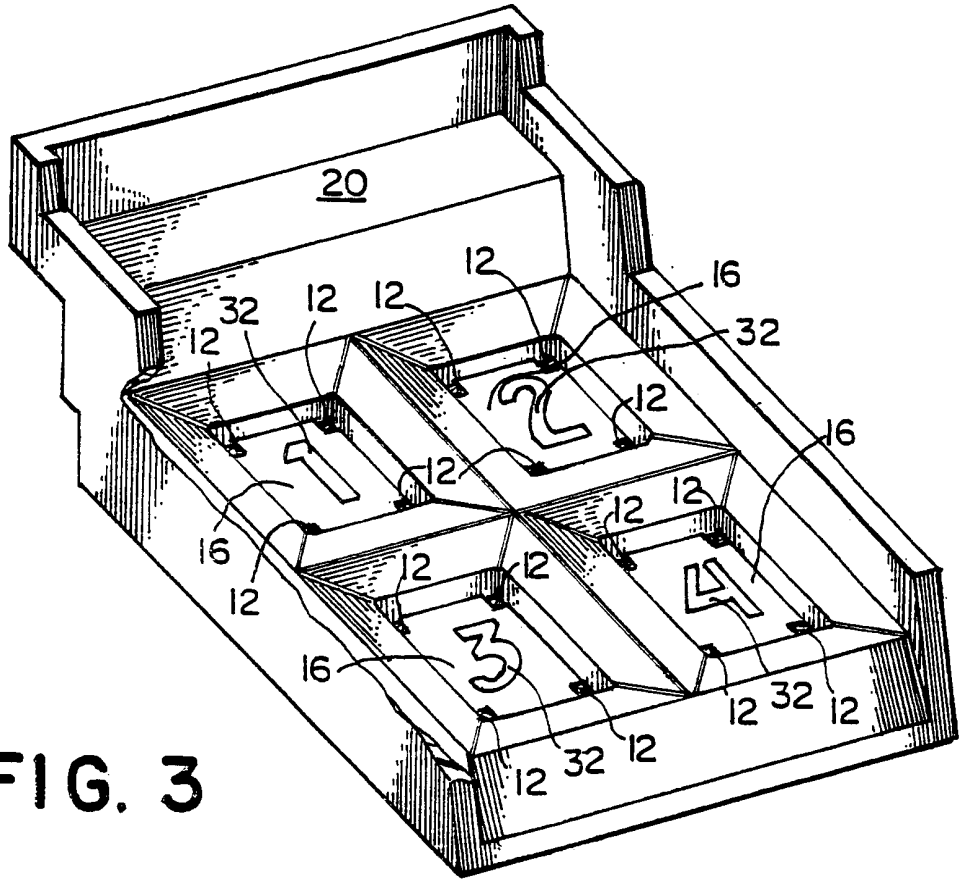
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FIG. 3

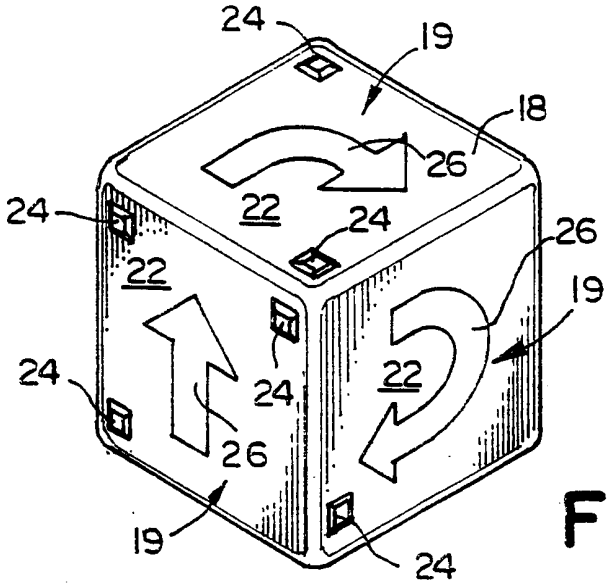
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FIG. 4

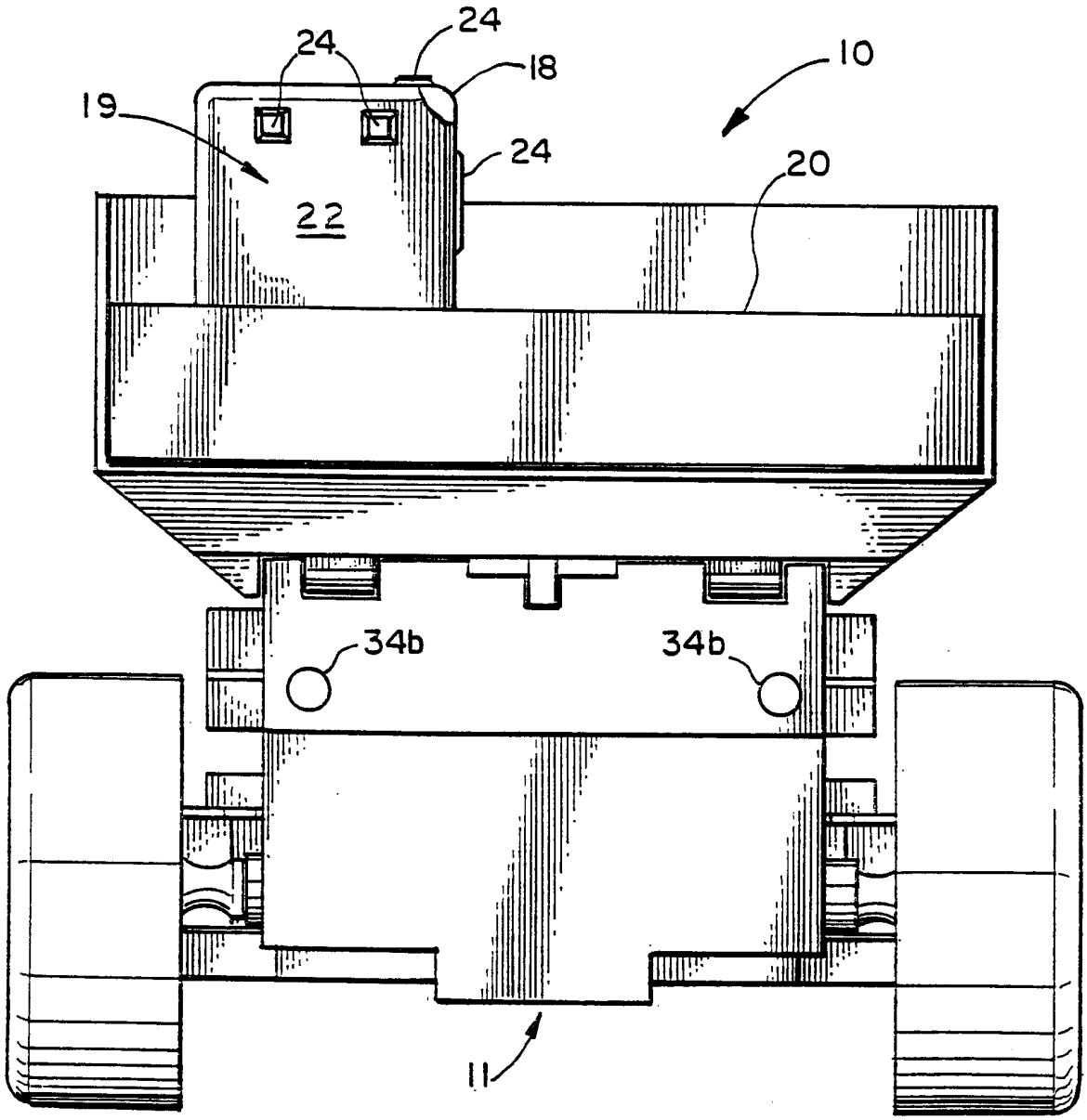

FIG. 5

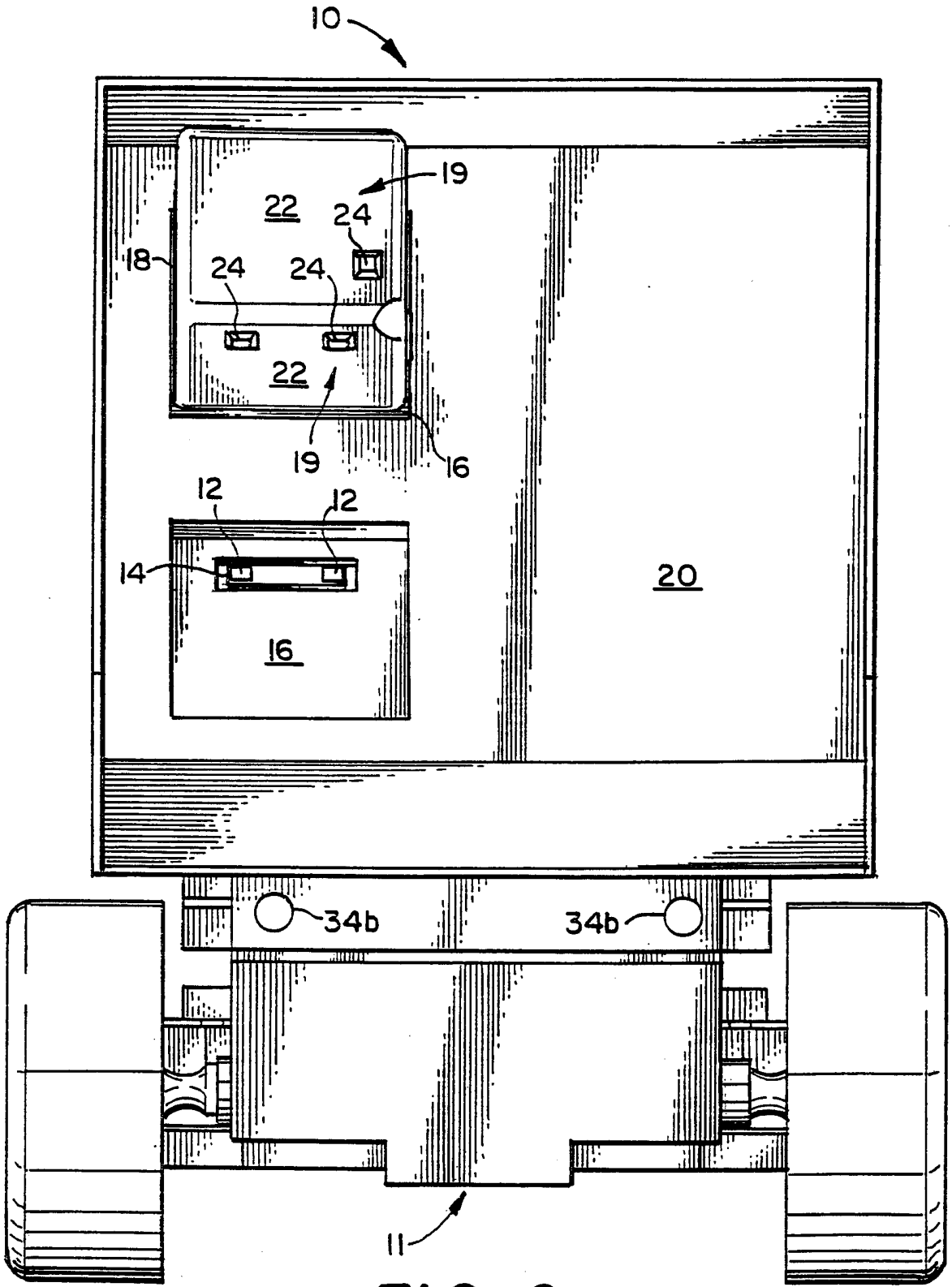

FIG. 6