

[54] **TOY WITH PSEUDO AUTOMOBILE
CONTROLS AND PSEUDO
AUTOMOBILE WINDSHIELD AND
WINDSHIELD WIPER MECHANISM**

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[52] **U.S. Cl.**.....**46/1 B**
[51] **Int. Cl.**.....**A63h 33/00**
[58] **Field of Search**.....**46/1 B, 192**

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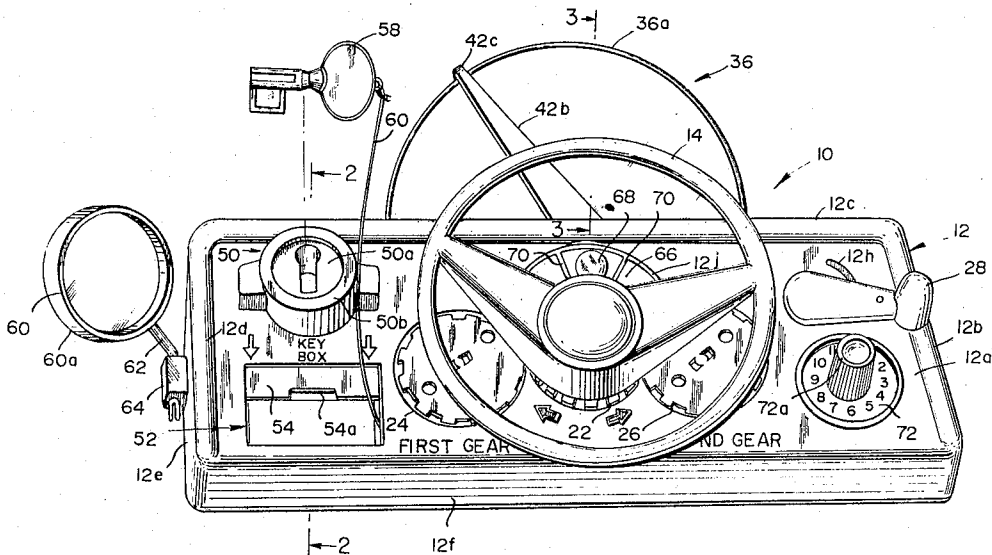
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[57] **ABSTRACT**

A toy which enables a child to simulate to some extent the motions required in driving an automobile. The toy includes a frame and a number of parts in operative relation therewith, the parts simulating some of the controls of an automobile and an automobile windshield and windshield wiper. One of the parts is a lever that is pivotally fixed to the frame and which simulates the automobile transmission shift lever. A plastic shield which simulates the automobile windshield is fixed to the frame and a pair of arms that simulate a windshield wiper flank both sides of the plastic shield. A kinematic linkage connects the lever and arms so that manipulation of the lever results in the arms sweeping across the opposite sides of the plastic shield to simulate the action of a windshield wiper.

11 Claims, 7 Drawing Figures



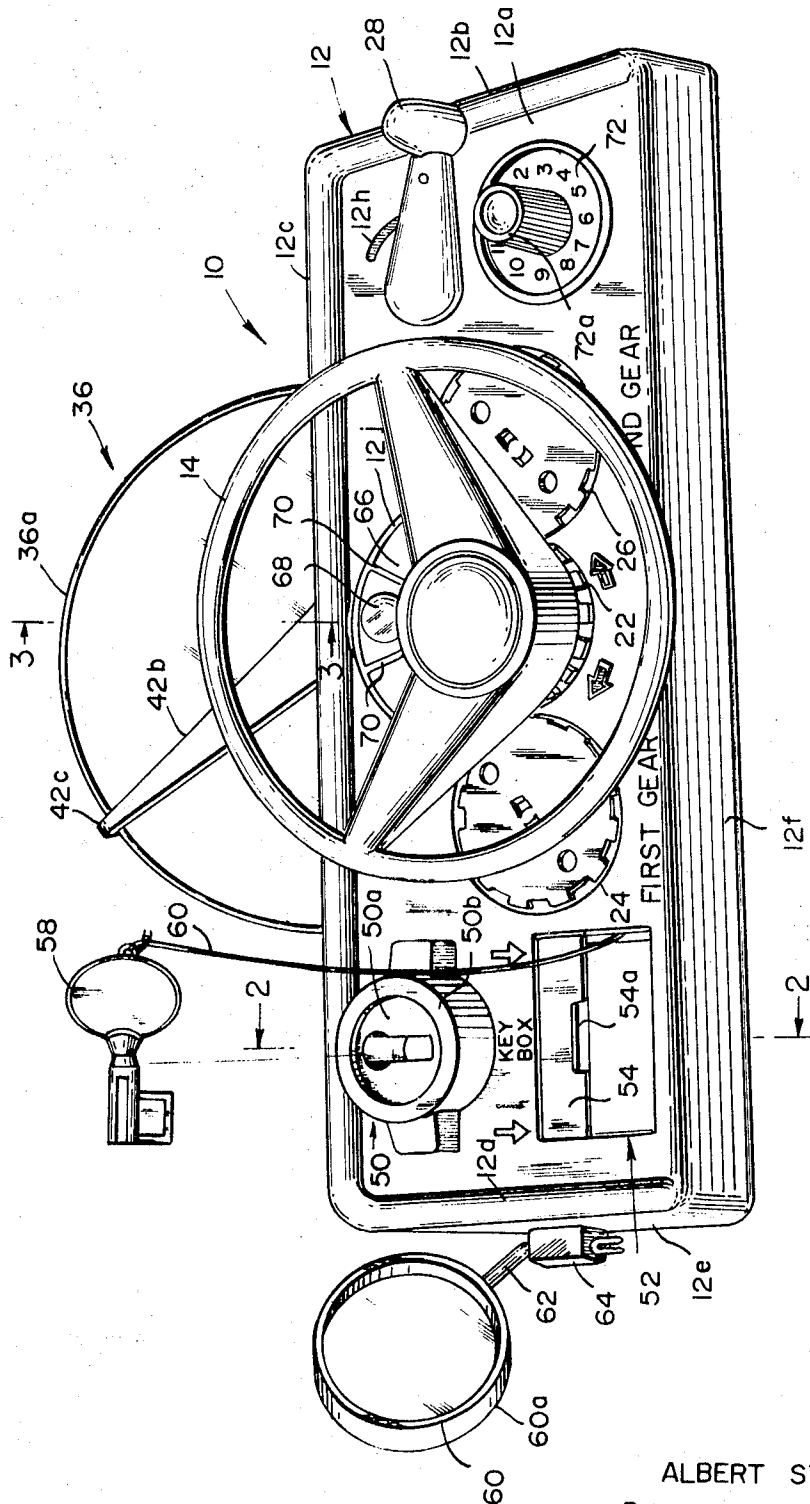


FIG. 1

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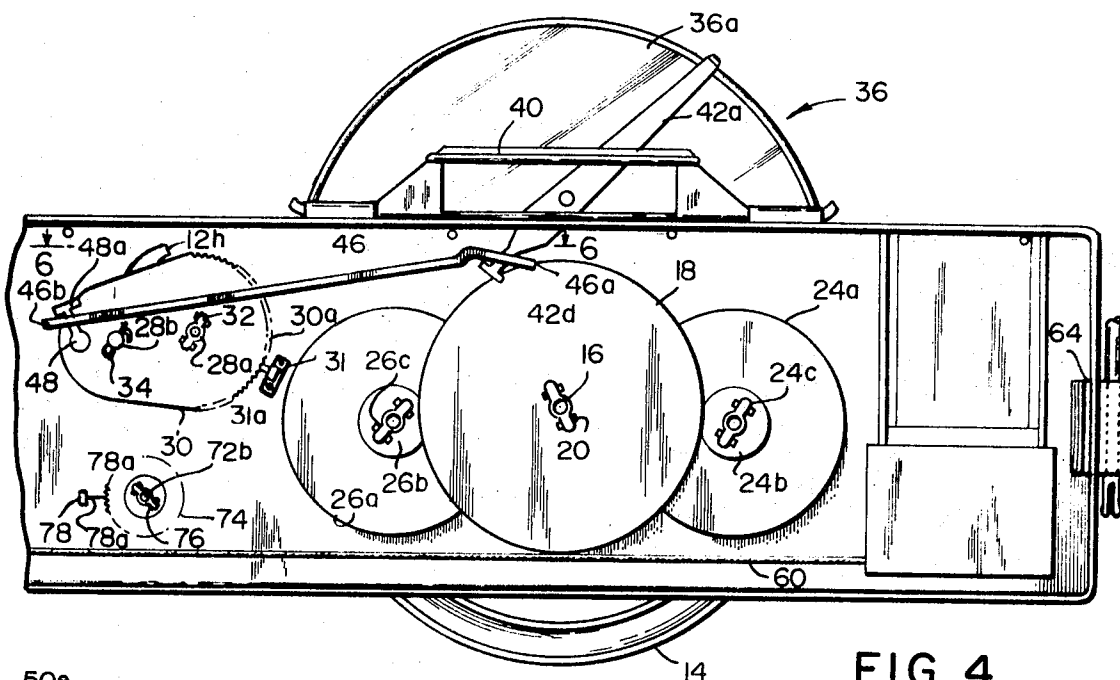


FIG. 4

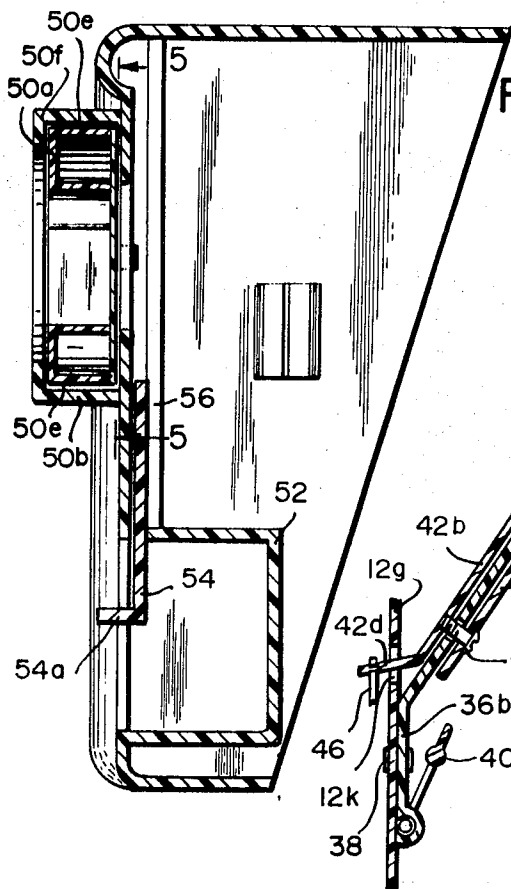


FIG. 2

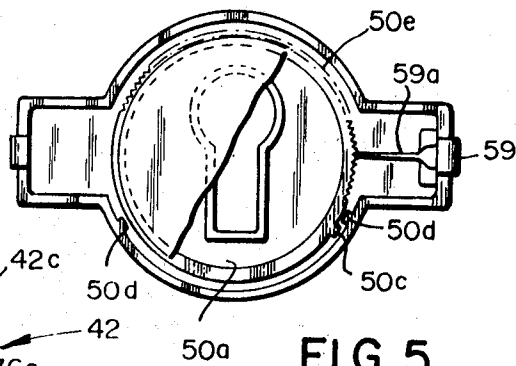


FIG. 5

FIG. 3

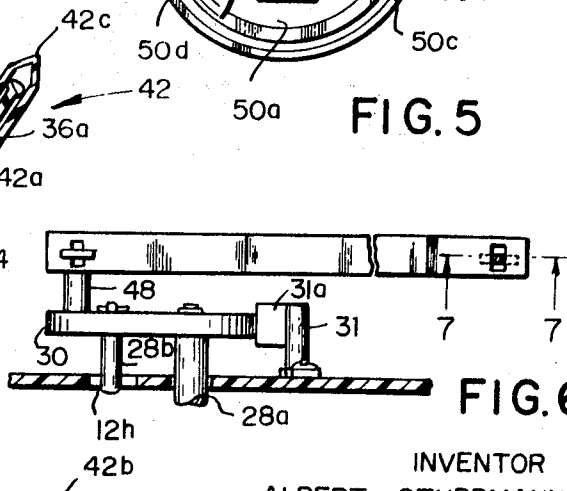


FIG. 6



FIG. 7

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TOY WITH PSEUDO AUTOMOBILE CONTROLS AND PSEUDO AUTOMOBILE WINDSHIELD AND WINDSHIELD WIPER MECHANISM

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a toy suitable for children of tender ages and specifically to a toy that enables a child to play by simulating some of the motions performed by a person driving an automobile.

2. Description of the Prior Art

One of the drawbacks with many toys which are designed for children of tender ages is that they do not maintain the child's interest after having been played with for a relatively short period of time. As a result, after the initial excitement in using the toy has passed, the child often discards the toy and sometimes never even uses it again. There are a number of reasons which contribute to the child losing his interest in a toy after a relatively short period of time. One of the reasons is that the child does not correlate his playing with the toy with his everyday experiences and observations. Another reason for a child rapidly losing his interest in a toy is that his playing with the toy does not produce visual and/or audio responses to his physical manipulation of the toy.

Probably one of the most common occurrences to a majority of children of tender ages is riding in an automobile and watching the driver manipulate the automobile controls. As a result, the child has a great deal of interest in playing with the automobile controls which is rarely allowed or at least simulating some of the motions of a person driving a car. There have been a number of prior art toys designed to enable a child to simulate some of the motions performed in driving an automobile. Some of these prior art toys had the short-comings of not maintaining the child's interest after a relatively short period of using the toy since they did not allow the child to even partially simulate the manipulations required for driving an automobile. Additionally, many of these prior art toys did not produce a response, either visual or audio or both, to the child's manipulating the toy and the child lost interest in playing with the toy after a short period of using it.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide an improved toy of the kind herein described.

A further object of the present invention is to provide a toy that enables a child to simulate some of the motions required in driving an automobile and which maintains the child's interest even after it has been used for an appreciable period of time.

Still another object of the present invention is to provide a toy that enables a child to simulate to some extent the manipulations required in driving an automobile with there being for every manipulation of the toy a visual and/or audio response produced.

A yet further object of the present invention is to provide a toy of the type herein discussed which is simple and inexpensive to make and durable in use.

An additional object of the present invention is to provide a toy of the type herein discussed which is safe for a child to use.

Briefly, in accordance with the present invention, the foregoing and other objects are achieved by placing a plurality of parts in operative relation with a frame having a panel, the parts simulating some of the controls of an automobile and an automobile windshield and windshield wiper. One of the parts is a lever that is pivotally fixed to the panel and which simulates the automobile transmission shift lever. A slot is located on the panel and a peg on the bottom portion of the lever extends through the slot and is affixed to a kinematic linkage.

A plastic shield which simulates the windshield on an automobile is affixed to the toy with a folded over arm that corresponds to the windshield wiper arm flanking both sides of the plastic shield. The arm is connected to the kinematic linkage and manipulation of the lever results in the kinematic link-

age moving the arm across the opposite sides of the plastic shield to simulate the action of a windshield wiper. A clicker mechanism is operatively connected with the kinematic linkage so that movement of the lever and arms produces an audio response.

A wheel which simulates an automobile steering wheel is rotatably supported by a shaft to the panel and rotation of the wheel and shaft rotates a driving gear surrounding said shaft and two driven gears in mesh with the driving gear.

The rotation of the wheel also results in rotating a dial having a series of numbers on it which correspond to the numbers on a speedometer to simulate the operation of a speedometer during the driving of an automobile.

A key and a key receiving member are provided for simulating the ignition key and ignition key receiving hole on an automobile and a mirror is provided adjacent one side of the panel to simulate the outside rearview mirror.

From the foregoing it is apparent that the toy of the present invention enables the child to simulate to a great extent the experience of driving an automobile. Further, for every manipulation of the toy there is some response either visual or audio or both to assist in maintaining the child's interest in playing with the toy.

Other objects of the invention in part will be obvious and in part will be pointed out hereinafter.

The invention accordingly constitutes the features of construction, combination of elements and arrangements of parts which will be exemplified in the apparatuses hereinafter described, and of which the scope of application will be indicated in the appended claims.

BRIEF DESCRIPTIONS OF THE DRAWINGS

In the drawings:

FIG. 1 is a perspective view of an embodiment of the present invention;

FIG. 2 is a sectional view taken along the line 2—2 of FIG. 1 illustrating the key receiving member and key box of the present invention;

FIG. 3 is a sectional view taken along the line 3—3 of FIG. 1 illustrating how the arms of the present invention which simulate wiper arms flank a shield to simulate the windshield wiping operations in an automobile;

FIG. 4 is a bottom view of the embodiment of the present invention illustrated in FIG. 1;

FIG. 5 is an enlarged sectional view taken along the line 5—5 of FIG. 2 illustrating the clicker mechanism which is associated with the key receiving member of the invention;

FIG. 6 is an enlarged sectional view taken along the line 6—6 of FIG. 4 showing the kinematic means of the present invention for moving the arm which simulates the windshield wiper and a portion of the kinematic linkage which moves the arm; and

FIG. 7 is an enlarged sectional view taken along the line 7—7 of FIG. 6.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In FIG. 1 of the drawings, a toy 10 in accordance with the present invention is seen to include a frame 12. Frame 12 includes a panel 12a which is surrounded by rim portions 12b, 12c and 12d. Extending downwardly from panel 12a are walls 12e and 12f (FIG. 1), a rear wall 12g (FIG. 3), and a wall which is below rim 12b but is not seen in the FIGS. Preferably wall 12e and the wall beneath rim 12b are contoured so that the rear portion of the toy is elevated relative to the front portion with the toy resting on a horizontal surface.

A wheel 14 which is shaped to simulate the steering wheel on an automobile is affixed by a shaft 16 (FIG. 4) to frame 12. Shaft 16 is journaled through panel 12a and through a disc 18 with which it is rotatable. A cotter pin 20 (FIG. 4) extends through the free end of shaft 16 outside the disc to prevent the shaft from moving along its axis relative to the panel. As will hereinafter be more fully described disc 18 upon rotation of

shaft 16 simulates the operation of an automobile speedometer.

A gear 22 is rotatable with shaft 16 and is in mesh with gears 24 and 26. As can be seen in FIG. 1, gears 24 and 26 are in mesh with diametrically opposed portions of gear 22 with the gears 24 and 26 being housed in casings 24a and 26a, respectively (FIG. 4). Each of the casings extends from panel 12a into the interior of the toy as seen in FIGS. 1 and 4 with each gear having a shaft 24b and 26b, respectively, which projects through and is journaled in the respective casing bottom. Cotter pins 24c and 26c secure the free ends of shafts 24b and 26b which project through the casings (FIG. 4) to prevent the gears from moving away from panel 12a.

A lever 28 that simulates the automobile shift lever has a post 28a (FIG. 4) which extends through both panel 12a and an oval shaped link 30 with cotter pin 32 securing the free end of the post. Lever 28 is rotatable with post 28a as will hereinafter be more apparent. An arcuate slot 12h is located in panel 12a and a peg 28b projects from lever 28 through the slot and through link 30 with cotter pin 34 securing the free end of the peg so that the peg cannot be pulled through link 30 or slot 12h of panel 12a. Link 30 is affixed to post 28a and includes teeth 30a which are in engagement with arm 31a of clicker mechanism 31.

A pellucid shield 36 which includes a circular segment 36a and a base 36b is affixed at its base 36b to rear wall 12g (FIG. 3) by a series of rivets 38 or other suitable fastening means. Since FIG. 3 is a sectional view, only one fastening means 38 is shown but it is obvious that a plurality of such fastening means are utilized to insure that the shield is rigidly secured to wall 12g. Shield 36 may be made from any of the common pellucid plastic materials which are known to those skilled in the art and simulates the windshield on an automobile.

A carrying handle 40 having a gripping means is also attached to rear wall 12g with an edge of the handle seen in FIG. 3. The bottom of base 36b of shield 36 may be looped and fastened to wall 12g with a portion of handle 40 pivotally received within the looped portion. When it is desired to carry the toy this can be conveniently done by holding the gripping means of the handle.

An arm mechanism 42 that simulates the windshield wiper of an automobile includes individual arms 42a and 42b that are in registry with each other and which flank the opposed surfaces of circular segment 36a of shield 36 (FIG. 3). The upper portions of arms 42a and 42b are joined by a bridge 42c. Arm mechanism 42 is pivotally fixed relative to shield 36 and this is accomplished by having a screw 44 pass through arm 42a and an opening in shield 36 with the threaded end of screw 44 engaged in arm 42b. Arm 42a extends slightly past screw 44 and is substantially longer than arm 42b for a reason that soon will be apparent. A bottom segment 42d of arm 42b projects through an opening 12k in rear wall 12g and is T-shaped at its end as seen in FIG. 4.

A rod 46 has an opening adjacent end 46a with the opening loosely fitting about the neck of the T-shaped portion of arm 42b (FIG. 7).

A shaft 48 rigidly projects from link 30 with there being a T-shaped portion 48a at the free end of shaft 48. An opening on rod 46 adjacent end 46b loosely surrounds the neck of the T-shaped portion 48a of shaft 48 and enables movement of shaft 48 to move rod 46.

A key receiving member 50 is affixed to panel 12 and includes a cylinder 50a which is rotatable within a sleeve 50b with a keyhole being located within cylinder 50a. A flange 50f on sleeve 50b maintains the cylinder therein. Located adjacent key receiving member 50 on panel 12a is key box 52 which, as can be seen in FIG. 2, projects from the panel towards the interior of the toy. A cover 54 having a handle 54a is approximately flush with the surface of the panel 12 and slides on tracks 56, one of which may be seen in FIG. 2. Cover 54 may be pulled along its tracks to cover and uncover the key box 52 as desired. A pseudo key 58 is fixed to an elastic string 60 which is secured to the interior of key box 54. A series of

teeth 50e are formed on the periphery of cylinder 50a and are in engagement with arm 59a of clicker mechanism 59. Stops 50d on sleeve 50b and a stop 50c on cylinder 50a limit the rotation of the cylinder within the sleeve. As is readily apparent the key receiving member and associated structure is intended to simulate an automobile ignition key receiving cylinder and an automobile ignition key.

Mirror 60 is located within housing 60a with an arm 62 extending from the housing and being engaged by clamp 64. Clamp 64 is attached to wall 12a and allows arm 62 to be adjusted so the position of housing 60a can be changed as desired. Additionally, the position of mirror 60 relative to housing 60a can be adjusted. As is readily apparent mirror 60 simulates the outside rear view mirror on an automobile.

A slot 12j is located on panel 12 with a magnifying glass 68 supported by struts 70 of panel 12a to block a portion of the slot. A series of speedometer mileage marks are printed on the side of disc 18 that can be seen in FIG. 1 with a portion of the marks at any instant highlighted by a magnifying glass 68. Rotation of wheel 14 results in different marks on dial 18 passing under magnifying glass 68 to simulate the operation of an automobile speedometer.

A numbered dial 72 is rotatably affixed to panel 12a and has a knob 72a for rotation thereof. A post 72b (FIG. 4) is affixed to knob 72a and projects through both panel 12a and disc 74 with a cotter pin 76 securing the free end of post 72b to prevent the post and dial from moving along the post axis relative to panel 12a. The edges of disc 74 are serrated and are in engagement with lever 78a of clicker mechanism 78 so that rotation of knob 72a will result in a sound being produced.

A horn push button 66 located at the intersection of the rims of wheel 14 is arranged to actuate a sounding mechanism in shaft 16 to simulate the horn on an automobile.

A child may utilize the toy of the present invention in a number of ways. He may oscillate lever 28 within the limits of travel of peg 28b in slot 12h and by so doing rock link 30 and shaft 48 causing rod 46 to reciprocate so as to oscillate arms 42a and 42b in a sweeping movement over the opposite sides of segment 36a of shield 36. While this is happening an audio signal is produced by clicker mechanism 47 through the engagement of the clicker lever with teeth 30a on link 30.

A child may also rotate steering wheel 14 and see the different numbers on the exposed surface of dial 18 pass beneath magnifying glass 68 to simulate the steering of an automobile and the operation of an automobile speedometer. While wheel 14 is being turned gears 24 and 26 are rotated by their being in mesh with gear 22 to further provide a visual and audio response to rotation of the wheel. A child may thus with one hand rotate wheel 14 and see the different simulated speedometer readings and with the other hand manipulate lever 28 to see shield 36 being swept by arms 42a and 42b. Additionally, horn button 66 may be depressed as desired.

A child may also take key 58 from key box 52 and place it in cylinder 50a to rotate the cylinder and simulate the placing of an automobile ignition key in the automobile ignition key hole. Rotation of cylinder 50a produces an audio response as a result of the engagement of clicker lever 59a with teeth 50c.

The child may also manipulate mirror 60 relative to housing 60a or move the entire housing by adjusting lever 62.

A further feature of the toy described herein is that a child may rotate knob 72a to turn dial 72 and produce an audio response due to the engagement of clicker lever 78a with the teeth of disc 74.

The frame and different components of the present invention may be made from plastic or any other suitable material.

It is readily visual that a toy of novel design is disclosed herein which will enable a child to simulate to some extent the motions required in driving an automobile. It is further apparent that for nearly every manipulation of any part of the toy described herein a visual and/or audio response is produced which increases the interest of the toy for children.

It thus will be seen that there is provided a toy which achieves the various objects of the invention and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein described or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described the invention there is claimed as new and desired to be secured by Letters Patent:

1. A toy for enabling a child to simulate to some extent the manipulations required in driving an automobile comprising:
 - a. a frame having a panel and a wall, the panel having an arcuate slot and a second slot located in the wall;
 - b. a lever pivotally fixed to the panel, said lever having a peg affixed to the bottom portion thereof distal the pivot point, the peg extending through the arcuate slot and movable therein;
 - c. a link flanking the panel surface opposed to the lever, said link affixed to the peg and pivotal with the peg about the pivot point of the lever;
 - d. a shaft projecting away from said link distal the pivot point of the link;
 - e. a shield affixed to the wall with a portion of the shield extending away from the wall;
 - f. an arm mechanism pivotally secured to said frame with a portion thereof movable adjacent a segment of the shield and a second portion of the arm mechanism projecting through the second slot;
 - g. a rod pivotally connected to said arm mechanism portion projecting through the second slot and pivotally connected to the shaft projecting away from the link, whereby movement of said lever results in said arm sweeping over said shield to simulate the windshield wiping operation in an automobile.
2. A toy according to claim 1 wherein the arm mechanism includes individual arms in registry with each other and which flank the opposed surfaces of the shield, the upper portion of the arms being joined by a bridge.
3. A toy according to claim 1 wherein the arcuate slot is provided for limiting movement of said lever relative to said panel and the second slot is provided for limiting movement of said arm mechanism relative to said wall.
4. A toy according to claim 1 further including teeth on said link, the link teeth engaged with a clicker mechanism whereby movement of the link relative to the panel activates the clicker mechanism to produce an audio signal.
5. A toy according to claim 1 further including a wheel proximate said lever and affixed to said panel and freely rotatable with respect to said panel for simulating an automobile steering wheel, an information indicating device having discrete bits of information stored thereon mounted on said panel and movable with respect thereto, means for highlighting a specific bit of information stored on said infor-

mation indicating device, means for moving said information indicating device as said wheel rotates to enable different bits of information to be high-lighted by said information highlighting means, and including a driving gear located on said panel and rotatable with said wheel and at least one gear on said panel in mesh with said driving gear and rotatable thereby.

6. A toy according to claim 4 further including a key box stationary with respect to said frame for storing a key which may be inserted in said key receiving member which comprises:

- a. a key box projecting from the panel toward the interior of the toy;
- b. a cover having a handle, said cover approximately flush with the surface of said panel;
- c. tracks, along which the cover may be pulled to cover and uncover the key box as desired.

7. A toy as characterized in claim 1 further enabling a child to simulate to some extent the placing of an automobile ignition key into an ignition key hole comprising:

- a. a wheel affixed to a panel and freely rotatable with respect to said panel for simulating an automobile steering wheel;
- b. a key receiving member secured to said panel proximate said wheel, the key receiving member including a cylinder and a sleeve, the cylinder including a key hole and being rotatable within the sleeve;
- c. a key box projecting from the panel toward the interior of the toy, said key box having an opening and fixed with respect to said panel for storing a key which may be inserted in said cylinder;
- d. a cover having a handle, said cover approximately flush with the surface of said panel;
- e. tracks, along which the cover may be pulled to cover and uncover the key box as desired;
- f. a key removably received in said key box for insertion in the cylinder key hole.

8. A toy according to claim 1 further comprising a key receiving member being rotatably secured to said panel, whereby a key may be inserted into said key receiving member to allow a child to simulate utilizing an ignition key to start an automobile.

9. A toy according to claim 6 further including a key adapted to be removably received in said key box for insertion in said key receiving member.

10. A toy according to claim 1 further including an adjustable mirror secured to said frame for simulating the outside rear view mirror on an automobile.

11. A toy according to claim 7 wherein cooperating stops are provided on said cylinder and said sleeve for limiting rotation of said cylinder within said sleeve.

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