

Feb. 28, 1967

E. L. THORNELL

3,305,966

WHEELED TOY TELEPHONE

Filed March 6, 1962

2 Sheets-Sheet 1

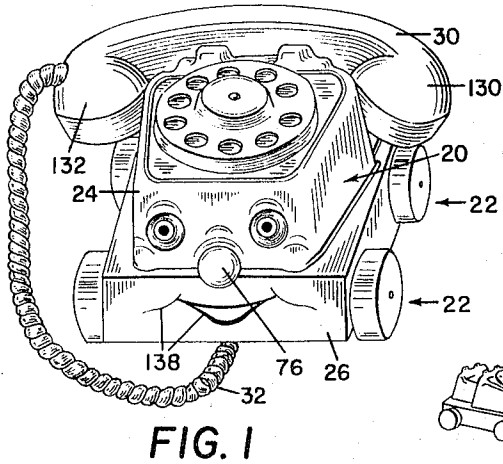


FIG. 1

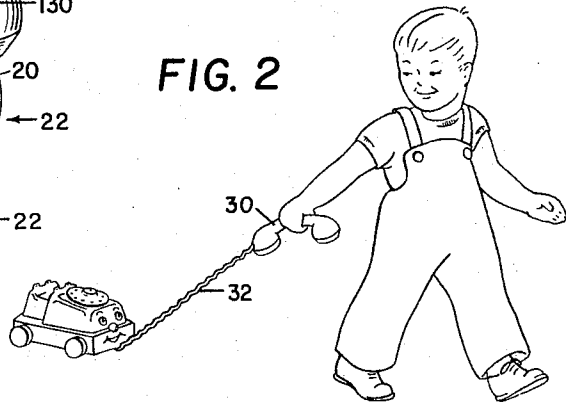


FIG. 2

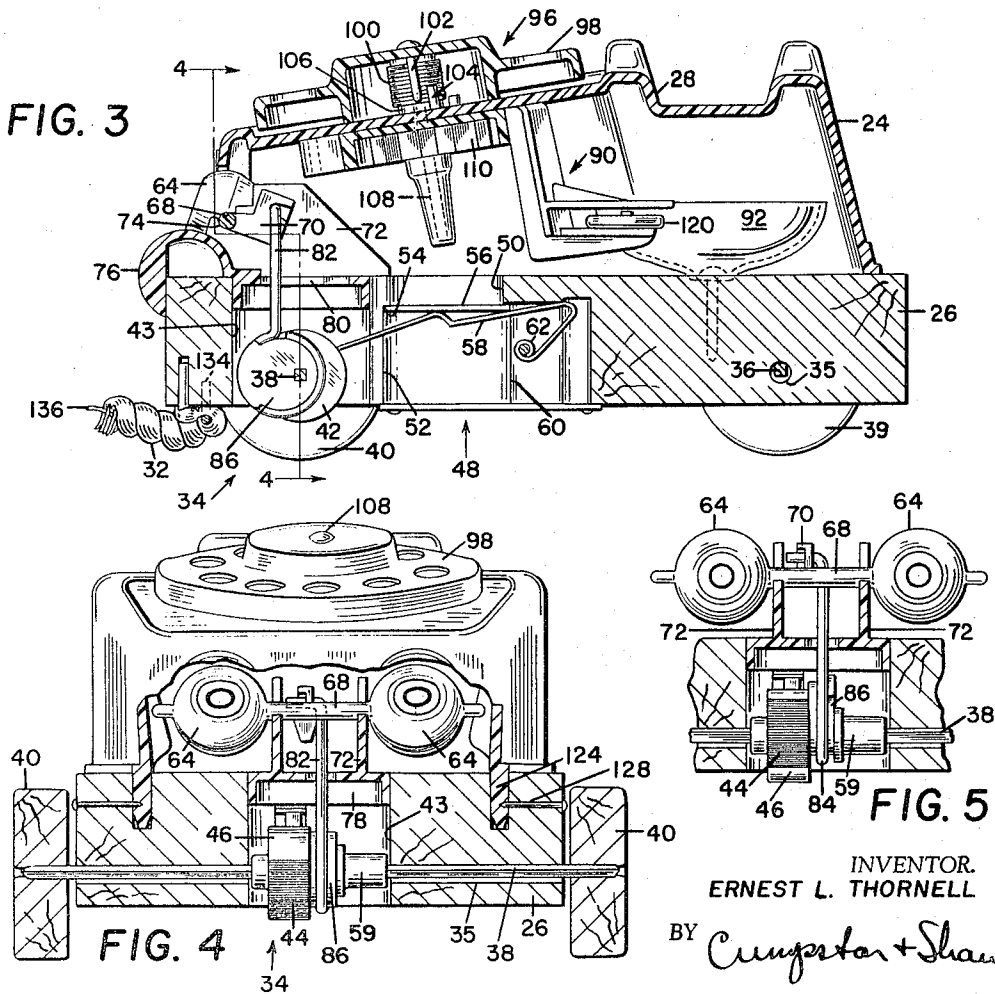


FIG. 3

FIG. 4

FIG. 5

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HIS ATTORNEYS.

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2 Sheets-Sheet 2

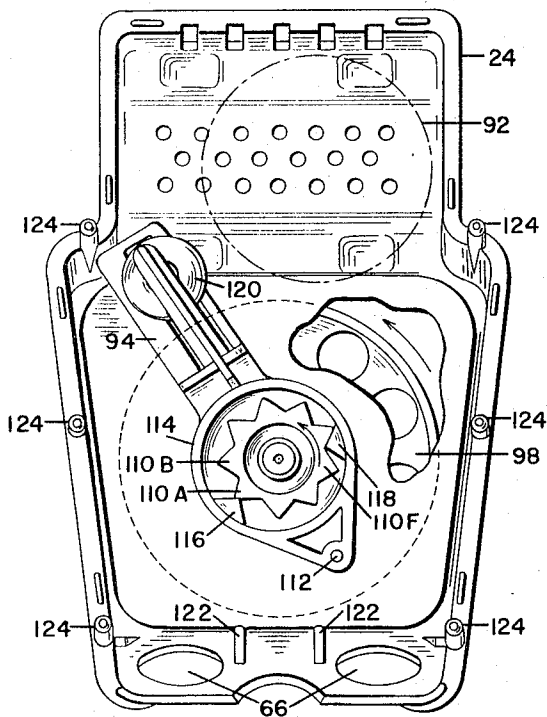
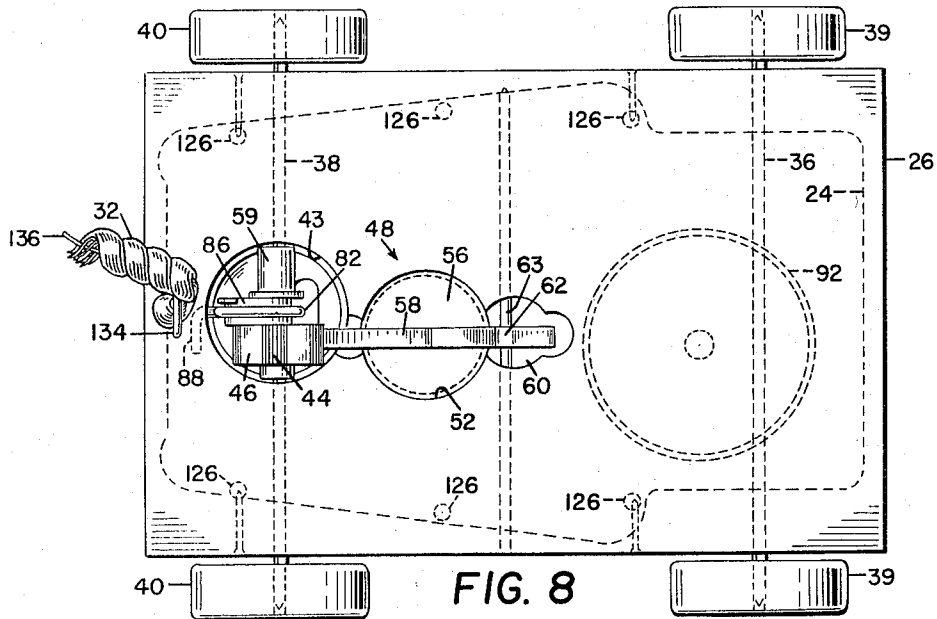


FIG. 6

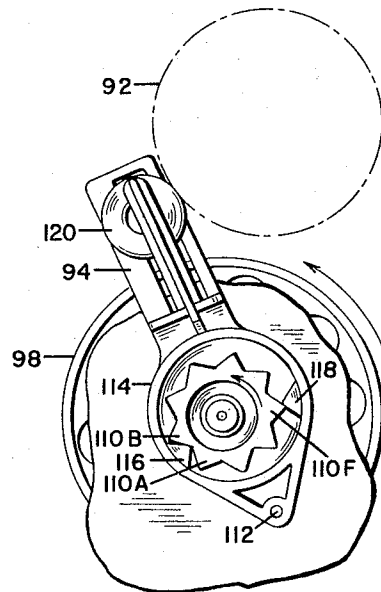


FIG. 7

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WHEELED TOY TELEPHONE

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10 Claims. (Cl. 46-33)

This invention relates generally to the amusement device and more particularly to a new and useful wheeled action toy for young children.

One object of the present invention is to provide a wheeled toy of the type designed to be pushed or pulled across a supporting surface, such as a floor or the like, and having elements thereof which, when actuated in response to such movement, produce a pleasant action or movement of certain of the parts of the toy and at the same time produce a novel and intriguing sound.

Another object is to provide a toy of the above character which will produce the foregoing action and sound effects when it is moved backwardly or forwardly.

Another object is to provide a toy of the above character fancifully simulating a telephone and having a sound producing means which simulates human voices as overheard on a conventional telephone.

Another object is to provide a toy having the above characteristics including a voice-simulating mechanism actuated by the rolling movement of the toy and having in addition a separate and distinct sound-producing mechanism that can be actuated by a child at will without moving the toy.

A further object is to provide a toy of the above character which has convenient means for pulling the toy along a supporting surface.

Still a further object is to provide a toy having the above advantages which is durable, reliable in operation and requires a minimum number of parts which may be readily and economically manufactured and assembled.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

FIG. 1 is a perspective view of a toy embodying the present invention;

FIG. 2 is a perspective view on a reduced scale showing the toy being pulled by a child;

FIG. 3 is a sectional elevation on an enlarged scale extending substantially along the center line of the toy;

FIG. 4 is a sectional front elevation substantially along the line 4-4 in FIG. 3;

FIG. 5 is a fragmentary front elevational view similar to FIG. 4, but showing certain of the parts in a different position;

FIG. 6 is a bottom plan view of the upper portion of the base showing the bell-ringing mechanism in one position;

FIG. 7 is a fragmentary bottom plan view similar to FIG. 6, but shows the bell-ringing mechanism in a second position, and

FIG. 8 is a bottom plan view of the lower base member showing the details of the sound-producing mechanism which is actuated by the rolling movement of the toy.

The preferred embodiment of the present invention, herein disclosed by way of illustration, is represented in the form of a table-type telephone shown generally at 20 (FIG. 1) which is provided with wheel and axle means 22 whereby the toy may be rolled along a supporting surface such as a floor or the like.

Telephone 20 preferably comprises an upper base member 24 which is similar in shape to the base of a conven-

tional table telephone, and a lower base 26 which forms a continuation of the upper base and which carries the wheel and axle members 22. Base member 24 is provided on the upper surface adjacent the rear end thereof with a cradle 28 which is adapted to detachably receive a hand set 30, as shown in FIG. 1. Hand set 30 is preferably attached to the forward end of base 26 by means of a flexible, extensible cord member 32.

Lower base member 26 carries a sound-producing mechanism shown generally at 34 (FIGS. 3 and 4). Sound-producing mechanism 34 is designed to produce a noise which simulates human voices as might be overheard in a telephone conversation and is actuated by the rolling movement of the toy. To this end base 26 is provided with a pair of transversely extending holes 35 (FIGS. 3 and 4) which rotatably receive rear and front axles 36 and 38 which in turn have wooden wheels 39 and 40, respectively, attached adjacent the opposite ends thereof, as shown in FIGS. 3 and 4. Axle 38 is preferably non-circular in cross section and in the present instance is square, so that the rotation of the axle may be readily transferred to sound-producing mechanism 34.

Mechanism 34 comprises a wheel 42 (FIG. 3) which is mounted on axle 38 adjacent the center thereof and within a vertically extending chamber or bore 43 which is formed in base member 26. Wheel 42 has portions thereof formed with a series of transversely spaced serrations 44 and a series of spaced smooth portions 46. Base 26 is formed with a sound chamber shown generally at 48 which is located directly rearwardly of opening 43 and which comprises a circular bore 50 extending downwardly from the upper surface of base member 26 and a counter-bore 52 which extends upwardly from the lower surface of base 26 and which forms, with bore 50, a circular ledge 54 which serves as the seat for a circular diaphragm member 56.

Diaphragm member 56 may be of paper, cardboard or other suitable material and is adapted to snugly fit within counterbore 52 and rest on ledge 54, as shown in FIG. 3. The noise-producing mechanism 34 also includes a leaf spring member 58 (FIG. 3) which bears against the underside of diaphragm 56 and which extends forwardly into contact with wheel 42. Spring 58 extends rearwardly beyond sound chamber 48 into a smaller chamber 60 and is reversely bent upon itself and formed with a small loop 62. A rod or nail 63 (FIG. 8) extends transversely across chamber 60 and through loop 62 for the purpose of holding spring 58 in position with the mid-portion thereof bearing against diaphragm 56 and the forward free end thereof bearing against wheel 42, as shown in FIG. 3. Wheel 42 is held in position axially in alignment with spring 58 by a hub portion 59 (FIG. 4).

It will be readily appreciated that if wheel 42 is caused to rotate by the rotation of front wheels 40, serrations 44 on the periphery of wheel 42 will cause spring 58 to vibrate and this vibration in turn is transmitted to diaphragm 56, the vibration in the diaphragm producing the desired sound effects. When spring 58 contacts smooth portions 46, the spring does not vibrate and there is no sound produced by diaphragm 56. The spacing and length of smooth portions 46 may be varied to alter the overall sound effects, as desired. It will be readily appreciated that this sound-producing mechanism will operate when the toy is moved forwardly and wheels 40 are rotated in a counterclockwise direction (as viewed from the side in FIG. 1) or when the toy is pushed backwardly and wheels 40 are caused to rotate in a clockwise direction.

In addition to the above sound-producing mechanism, I preferably provide the toy with certain parts which move in response to the rolling movement of the toy to impart a pleasant and intriguing action to the toy. To this end,

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I have provided the toy with a pair of oscillating eyeball members 64 (FIG. 5) which are mounted above the upper surface of base 26 and which project outwardly through suitable openings 66 (FIG. 6) in the front end of upper base 24. Eyeball members 64 are mounted in spaced relationship on a transversely extending rod 68 (FIGS. 4 and 5) which in turn is formed adjacent the center thereof with a rearwardly extending substantially L-shaped lever arm 70 (FIG. 3). Eyes 64 and rod 68 are supported above the upper surface of base 26 by means of a pair of spaced vertically extending members 72 (FIG. 5) which are formed adjacent the forward edges thereof with a pair of curved seat portions 74 (FIG. 3).

Members 72 preferably form part of a molded plastic assembly which includes a nose 76 and a disk-like base 78 which is adapted to fit in the upper end of bore 43. Base 78 is formed with an L-shaped slot 80 (FIG. 3) for the reception of a crank arm 82. Crank arm 82 is formed with a circular portion 84 at the lower end thereof which is adapted to engage an eccentric cam member 86 which rotates with serrated wheel 42 and preferably is integrally formed therewith. The upper end 88 (FIG. 8) of crank rod 82 is bent at substantially 90 degrees and extends through a suitable hole or opening formed in lever arm 70. Thus, it will be seen that the rotation of front wheels 40 and axle 38 causes cam 86 to rotate together with wheel 42 and this rotation of cam 86 in turn causes crank 82 to reciprocate. The reciprocation of crank 82 causes eyeball members 64 to oscillate or rock up and down to give the toy a fanciful and pleasant action. In addition, the rotation of noise-producing wheel 42 causes mechanism 34 to produce the above-described voice-simulating sounds.

Toy 20 includes a second sound-producing mechanism shown generally at 90 (FIG. 3) which is separate and distinct from that described above and which is independent of the movement of the toy and thus the rotation of front axle 38. This second sound-producing mechanism may be operated by a child while the toy is held in a stationary position as for example in his lap, on the floor beside him, or the like.

Sound-producing mechanism 90 comprises a bell 92 which is mounted on the lower base member, a reciprocating hammer or escapement arm 94 and a rotatable dial mechanism shown generally at 96 (FIG. 3) which causes hammer 94 to reciprocate and strike bell 92, thereby making the desired sound. Dial mechanism 96 comprises a rotatable dial wheel 98 which is mounted on the upper surface of base member 24 forwardly of cradle 28. Dial wheel 98 may be rotated as in a clockwise direction against the action of a coil spring 100 and when released will return to its initial at-rest position. The rotation of dial wheel 98 in either direction causes hammer 94 to strike bell 92 as hereafter more fully described.

Dial wheel 98 is formed with a radially extending stop member 102 which is adapted to strike against a fixed stop 104 formed on the upper surface of base 24 for arresting the rotation of the dial wheel. One end of coil spring 100 bears against stop member 102, while the other end thereof bears against stop member 104 thereby providing the desired spring biasing action for returning the dial wheel to its initial position after it is released. Dial wheel 98 is mounted on a boss 106 by means of a vertically extending nail 108 which extends through and is firmly attached to a gear or escapement wheel 110 mounted beneath the top of base 24. The rotation of dial wheel 98 is thereby transmitted to gear wheel 110.

The rotary motion of gear wheel 110 causes hammer 94 to reciprocate for the purpose of striking bell 92. Hammer 94 is pivotally mounted on a boss 112 (FIGS. 6 and 7) on the undersurface of base 24. Hammer 94 is formed with a circular portion 114 which surrounds gear wheel 110 as shown in FIGS. 6 and 7. Circular portion 114 is formed with a pair of spaced inwardly extending projections 116 and 118 which are so positioned and are of

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such a shape that as gear wheel 110 rotates in either direction, it strikes alternately against projections 116 and 118, thereby causing hammer 94 to oscillate. Specifically, as shown in FIG. 6, one tooth 110A of gear wheel 110 is about to move out of contact with projection 116 while another tooth 110F of gear wheel 110 is about to move into engagement with projection 118. Continued rotation of dial wheel 98 and gear 110 in a counterclockwise direction causes hammer 94 to swing in a clockwise direction from its position shown in FIG. 6 to its position shown in FIG. 7 whereby a metal washer member 120 which is loosely mounted on the end of hammer 94 strikes against the edge of bell 92 causing the same to ring. Further rotation of gear wheel 110 in a counterclockwise direction will bring tooth 110B into engagement with projection 116, thereby moving hammer 94 in a counterclockwise direction from its position shown in FIG. 7 to its position shown in FIG. 6. It will be readily appreciated that continued rotation of gear 110 in either a clockwise or counterclockwise direction will cause hammer 94 to reciprocate between its positions shown in FIGS. 6 and 7, thereby causing washer 120 to strike repeatedly against bell 92.

Upper base member 24 has on the inner surface of the front wall a pair of spaced vertically extending flanges 122 (FIG. 6) which, when member 24 is positioned on member 26, engage the upper surface of rod 68 and thereby hold rod 68 and eyeball members 64 in position. Member 24 is provided with a series of depending pegs 124 which are adapted to fit within a series of holes 126 (FIG. 8) in base 26. While pegs 124 may be held in holes 126 by glue or other suitable means, I preferably hold them in place by means of a series of nails 128 (FIG. 4) which extend inwardly from the sides of body member 26, intersecting holes 126 and extending through pegs 124, thereby securely fastening together members 24 and 26.

Hand set 30 is preferably formed of plastic or other suitable material and comprises a simulated receiver portion 130 (FIG. 1) and a transmitter or mouthpiece portion 132. Cord member 32 is preferably attached to hand set 30 adjacent the transmitter end by suitable means, not shown, and to the undersurface of base 26 by a staple 134. Cord member 32 is preferably woven so as to simulate the coil cord of a conventional telephone. Cord 32 has one or more longitudinally extending resilient strands or cords 136 which preferably are of rubber or other suitable material and which contract the coils of the cord and shorten it when the cord is not under tension. Not only do hand set 30 and cord 32 serve as an integral part of the telephone and are necessary to complete the same, but they also serve other separate and distinct functions in that the hand set provides a convenient and readily grasped handle whereby the toy may be pulled along a supporting surface while cord 32 provides a connection between the hand set and the base of the toy and enables a child to use the toy as a pull toy as well as a stationary toy. When the toy is used as a pull toy, sound-producing mechanism 34 produces the above-described simulated voice sounds, while cam 86, rod 82 and associated parts cause eyes 64 to oscillate in an attractive and intriguing fashion. Eyes 64 and nose 76 are combined with a fanciful mouth and cheek design 138 printed or otherwise applied to the front of base 26 for completing the simulated face of the toy.

In addition to its above advantages as a pull toy, my invention also provides a novel and pleasing telephone toy which a child may play with in his lap or in any desired stationary position. The child may lift the hand set and rotate dial wheel 98, thereby ringing bell 92 and providing all of the play advantages of a conventional telephone toy. Hand set 30 and cord 32 serve as integral parts of the toy when operated either as a pull toy or as a stationary toy and eliminate the need for a separate push stick or pull cord which would be extraneous and which would obstruct the child's use of the toy as a stationary toy.

It will thus be seen that the invention accomplishes its objects and while it has been herein disclosed by reference to the details of a preferred embodiment, it is to be understood that such disclosure is intended in an illustrative, rather than a limiting sense, as it is contemplated that various modifications in the construction and arrangement of the parts will readily occur to those skilled in the art, within the spirit of the invention and scope of the appended claims.

I claim:

1. In a toy telephone having a base simulating a table telephone base, a rotatable, simulated dial oriented on a normally forward facing portion of said base, noise means associated with said dial, a simulated hand set cradled on said base, and a flexible simulated telephone cord connecting said hand set to said base, the improvement comprising means for vivifying said telephone for mobility and sound, said vivification means comprising: simulated facial features formed on said forward facing portion of said base to form a countenance on said forward-facing portion of said base; wheel means supporting said telephone for trundling normally in said forward facing direction over a supporting surface; connection of said cord to said base at said normally forward facing portion thereof so that said hand set can function as a handle and said cord can function as a pull cord for trundling said telephone; and mechanical means responsive to rotation of said wheel means for producing sounds simulating human conversation.

2. A toy according to claim 1 wherein said facial features include a member movable in response to rotation of said wheel means.

3. A toy according to claim 2 wherein said movable member comprises a pair of simulated eyes.

4. In a toy telephone having a base simulating a table telephone base, a simulated dial, a simulated hand set cradled on said base, and a flexible simulated telephone cord connecting said hand set to said base, the improvement comprising: animation of said telephone for movement and sound, said animation comprising simulated facial features formed on one side of said telephone; wheel means supporting said telephone for trundling normally face-side forward over a supporting surface; connection of said cord to said telephone at said face-side so that said hand set can function as a handle and said cord can function as a pull cord for trundling said telephone normally face-side forward over said supporting surface; a member of said simulated facial features being movable in response to rotation of said wheel means; and mechanical means responsive to rotation of said wheel means for producing telephone-associated noise.

5. A toy according to claim 4 wherein said movable facial feature comprises a pair of eyes and said telephone-associated noise simulates a voice.

6. In a toy telephone having a base simulating a table telephone base, a simulated hand set adapted to be cradled on said base, and a flexible, simulated telephone cord connecting said hand set to said base, the improvement comprising: wheel means on said base supporting said telephone for trundling over a supporting surface, said wheel means being oriented for normally forward movement of said telephone; connection of one end of said cord to said base adjacent the normally forward-moving side thereof; connection of the other end of said cord to said hand set adjacent one end thereof; said hand set being configured so that it can be gripped by a child as a pulling handle; and said cord being of such size and strength that pulling by a child on said hand set is

conveniently transmitted to said telephone by said cord for trundling said telephone about.

7. In a toy telephone having a base simulating a table telephone base, a simulated hand set cradled on said base, and a flexible, simulated telephone cord connecting said hand set to said base, the improvement comprising: wheel means on said base supporting said telephone for trundling over a supporting surface, said wheel means being oriented for normally forward movement of said telephone; connection of said cord to said base at the normally forward-moving side thereof so that said hand set can function as a handle and said cord can function as a pull-cord for trundling said telephone; and mechanical means responsive to rotation of said wheel means for producing sounds simulating human conversation.

8. In a toy telephone having a base simulating a table telephone base, a simulated hand set adapted to be cradled on said base, a rotatable, simulated dial, noise means associated with said dial, and a flexible, simulated telephone cord connecting said hand set to said base, the improvement comprising: a plurality of wheels on said base supporting said telephone for trundling over a supporting surface, said wheels being oriented for accommodating normally forward movement of said telephone; connection of one end of said cord to said base adjacent the normally forward-moving side thereof; connection of the other end of said cord to said hand set adjacent one end thereof; said hand set being configured so that it can be gripped by a child as a pulling handle; and said cord being of a length, diameter, and strength so that pulling by a child on said hand set is conveniently transmitted to said telephone by said cord for trundling said telephone about.

9. In a toy telephone having a base simulating a table telephone base, a simulated hand set cradled on said base, a rotatable, simulated dial, noise means associated with said dial, and a flexible, simulated telephone cord connecting said hand set to said base, the improvement comprising: a plurality of wheels on said base supporting said telephone for trundling over a supporting surface, said wheels being oriented for accommodating normally forward movement of said telephone; connection of said cord to said base at the normally forward-moving side thereof so that said hand set can function as a handle and said cord can function as a pull-cord for trundling said telephone; and mechanical means responsive to rotation of said wheels for producing sounds simulating human conversation.

10. A toy according to claim 9 that is animated by having simulated facial features on said forward side and including a pair of simulated eyes that are movable in response to rotation of said wheels.

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