United States Patent

Johmann

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[45] **Dec. 12, 1972**

[54] **POINTER SPINNING MECHANICAL DOLLS**

[72] Inventor: **Frank T. Johmann,** 49 Hampton Dr., Berkeley Heights, N.J. 07922

[22] Filed: **June 8, 1970**

[21] Appl. No.: **44,064**

[52] **U.S. Cl.**.....**273/141 A,** 46/116, 46/120, 46/148, 46/247, 273/134 A, 273/134 B, 273/134 E

[51] **Int. Cl.**.....**A63f 5/04,** A63h 3/20

[58] **Field of Search**...273/134 E, 134 ES, 141 R, 141 A, 273/134 A, 134 B; 46/116, 117, 118, 119, 120, 148, 247

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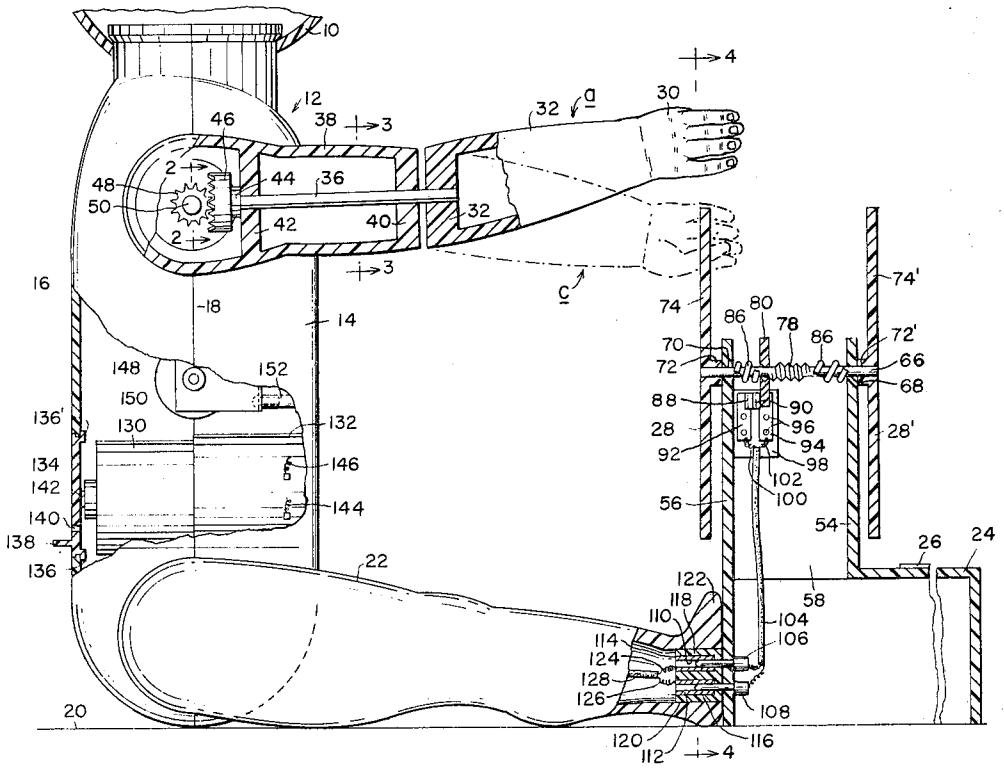
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Primary Examiner—Anton O. Oechsle

[57] **ABSTRACT**

This invention relates to a doll having a movable hand driven by an electric motor, preferably battery operated, which hand can move through a sequence of positions to spin a pointer, thus permitting the doll to appear to be an active participant in conventional games wherein a marker is moved on a game board a certain number of spaces determined by spinning a pointer.

10 Claims, 16 Drawing Figures

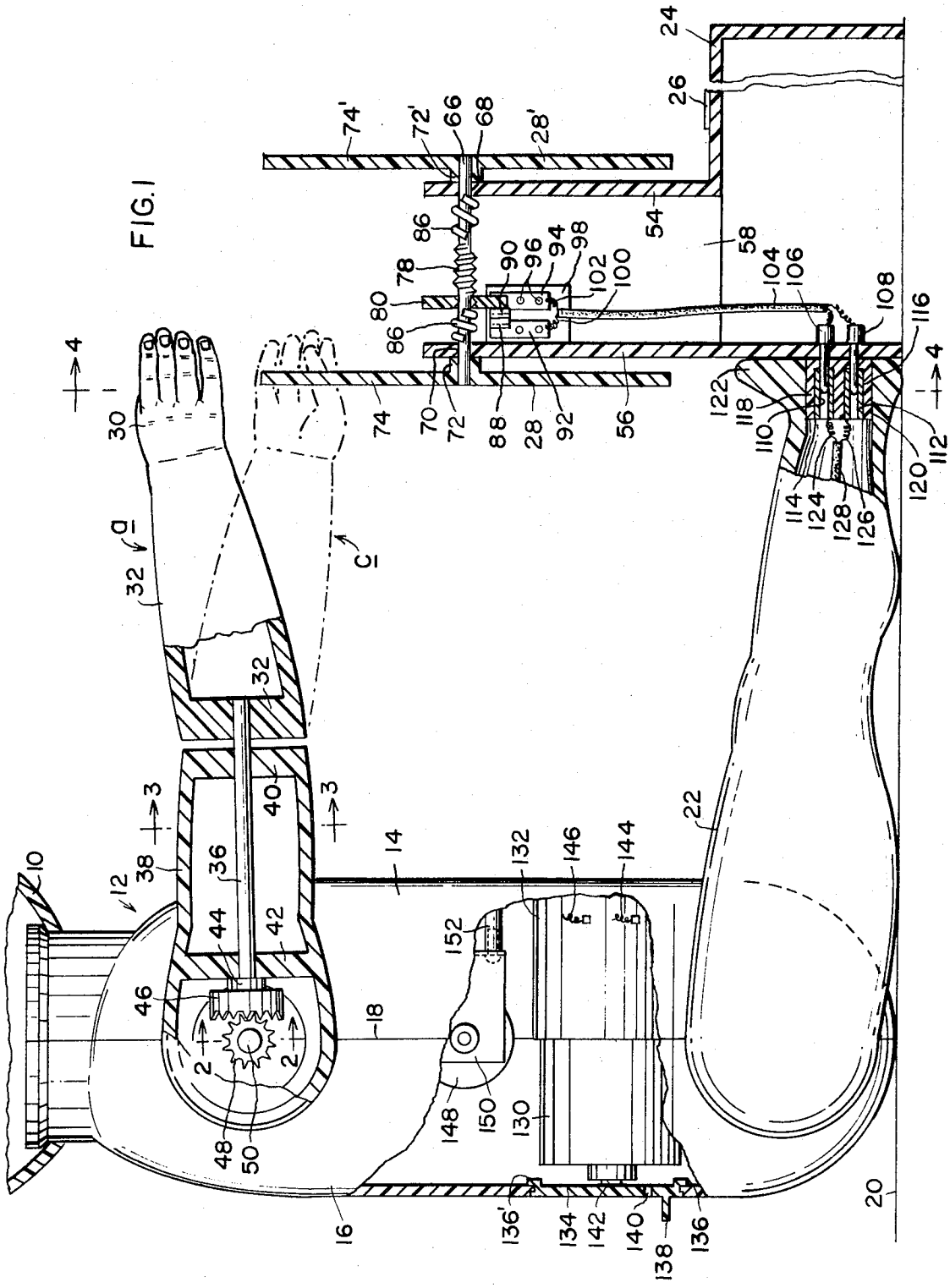


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5 Sheets-Sheet 1

FIG. 1



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5 Sheets-Sheet 2

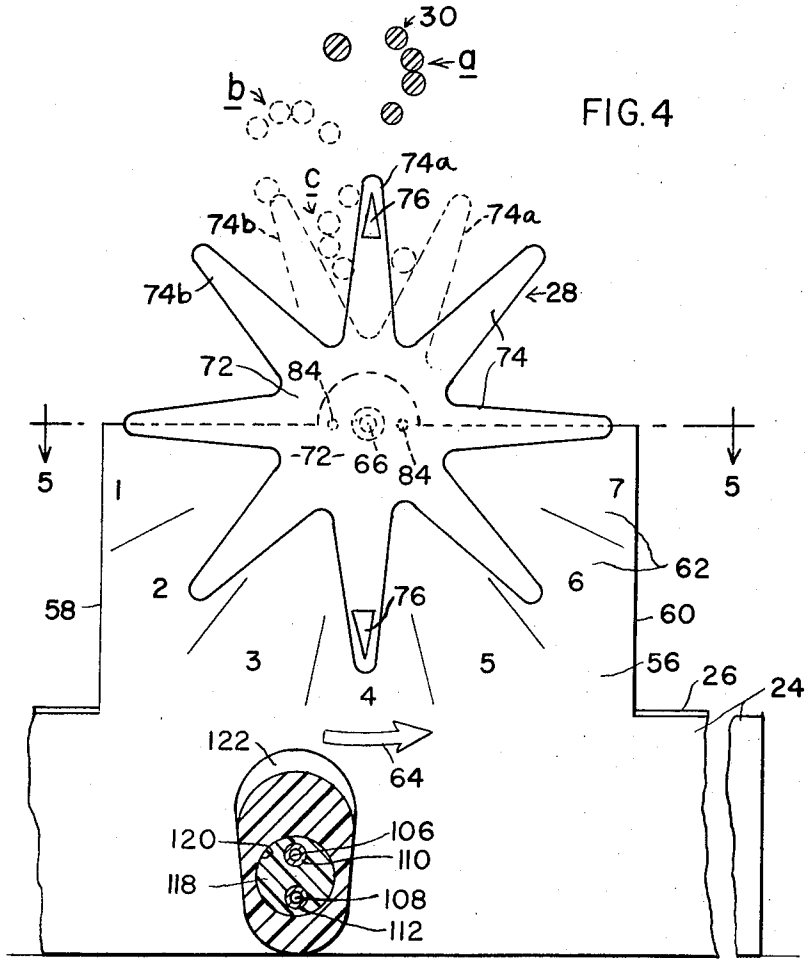
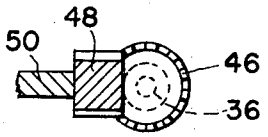


FIG. 4

FIG. 2



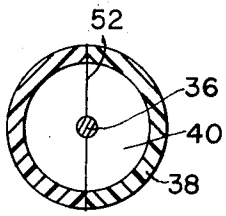


FIG. 3

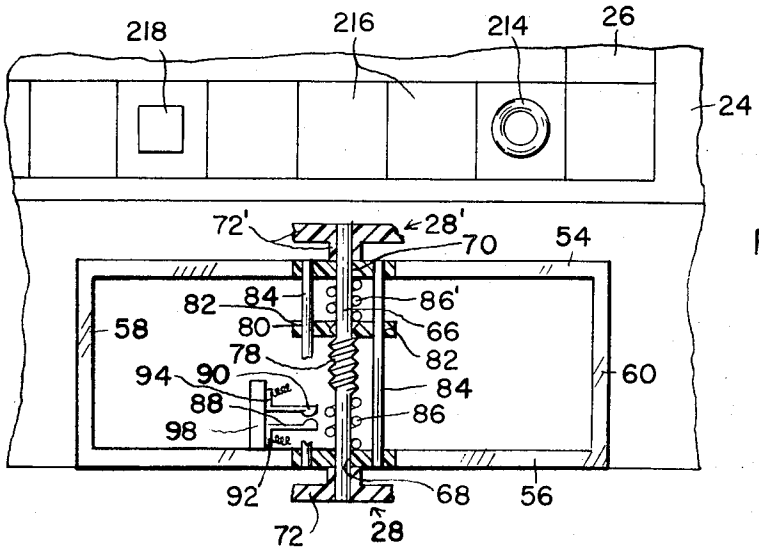


FIG. 5

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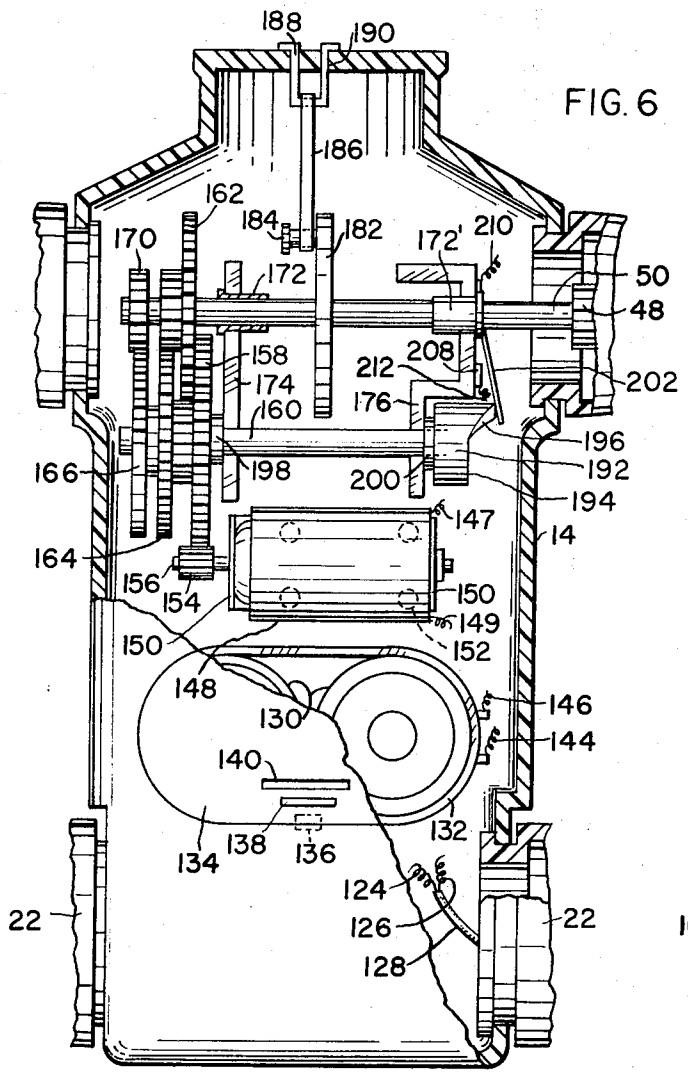


FIG. 6

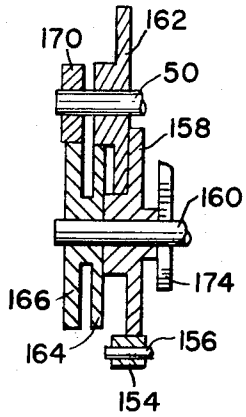


FIG. 7

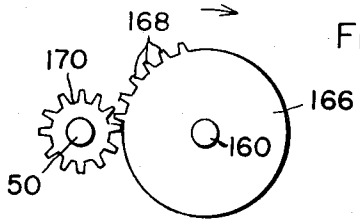


FIG. 8

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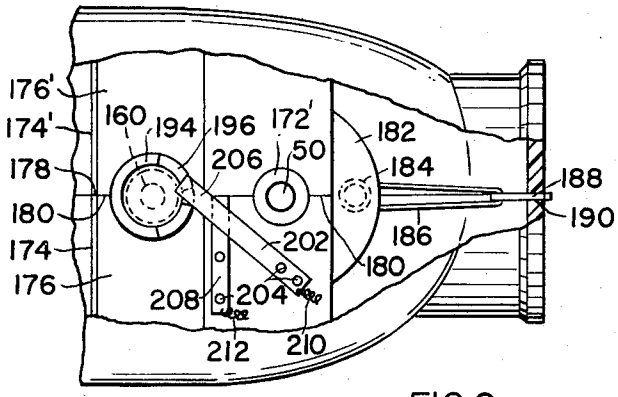


FIG. 9

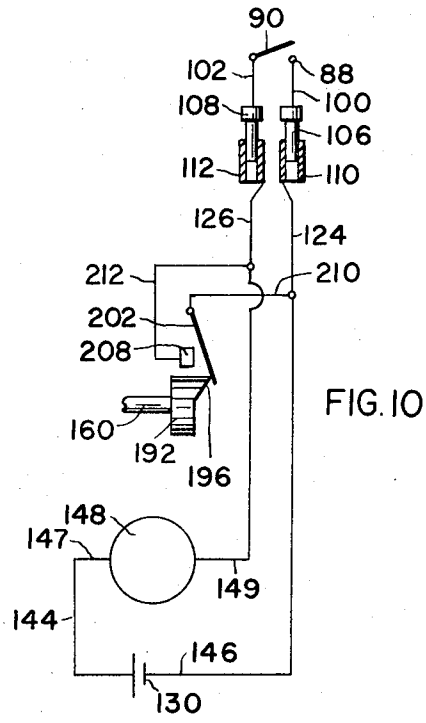


FIG. 10

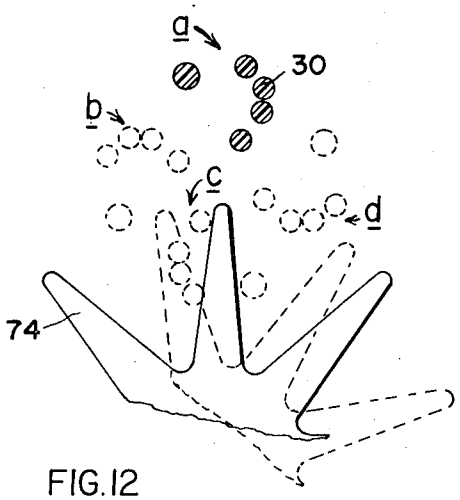


FIG. 12

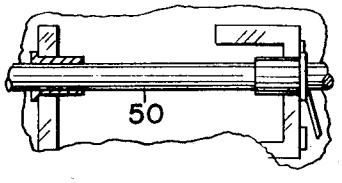


FIG. 11

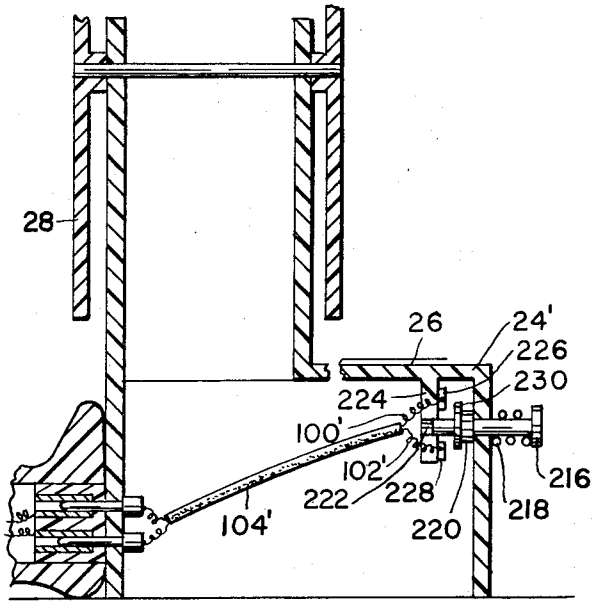
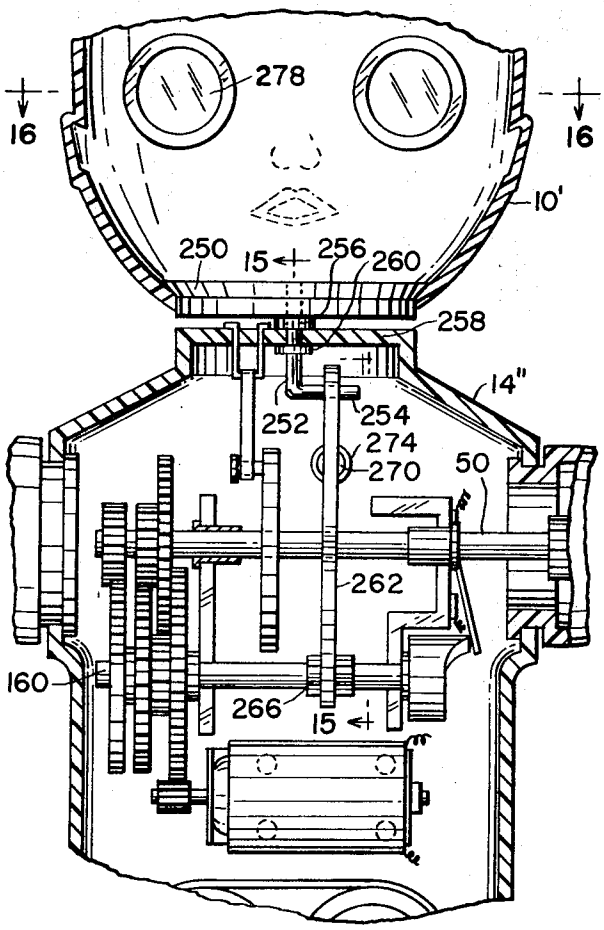


FIG. 13

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FIG. 14



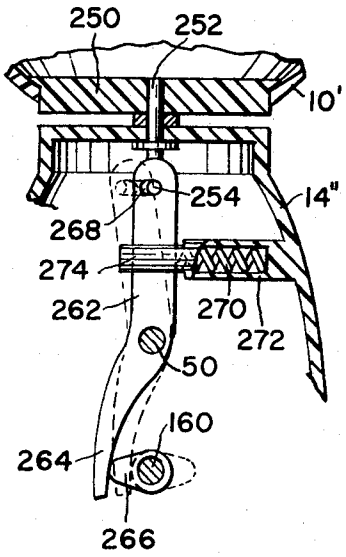


FIG. 15

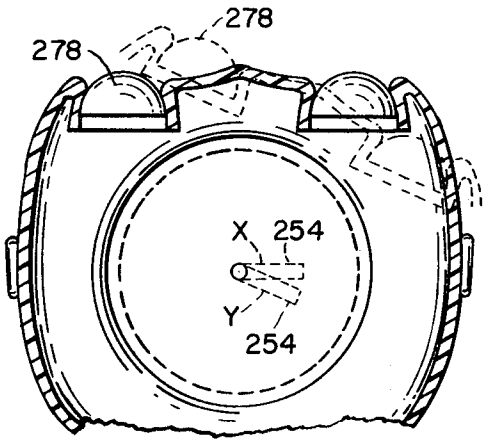


FIG. 16

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POINTER SPINNING MECHANICAL DOLLS

SUMMARY OF THE INVENTION

The present invention provides a doll which can take an active part in common children's games involving spinning a pointer. Thus, many games involve a game board having a pathway divided into a number of segments or squares, over which the players move markers leading from a starting position to a finish point. The players generally alternate in spinning a pointer to generate a number by chance, followed by moving their marker a number of squares corresponding to the generated number. Dolls of the invention can be made to spin such a pointer. For example, a child in playing a board game involving a pointer, spins the pointer to generate the child's number, e.g., 6, and then the child moves her marker along the game board the six squares. The child can then press a switch which actuates the doll which then moves its hand to spin the pointer and thereby generate the doll's number, e.g., 3. The child then moves the doll's marker along the game board the three squares. By alternating with the doll in this way, the doll appears to be an active playmate playing the game with the child. Alternatively, the switch which actuates the doll can be made to operate automatically after the child spins the pointer so that the doll automatically spins the pointer after the child does, so as to give a more life-like action to the doll. In addition, the doll can also be made to move her head so as to look at the pointer while the doll spins the pointer, and then move her head back to an initial position looking away from the pointer after completing the operation of spinning the pointer.

The dolls of the invention are preferably operated by a battery-operated electric motor, set into motion by a switch, either automatically operated or manually operated, which initiates the cycle of operation including turning off the motor at the end of the cycle after the doll spins the pointer. During said cycle, the doll's hand, which is pivotally mounted, e.g., at the elbow or shoulder, or even near the wrist, starts a motion during which the doll's hand strikes the pointer to spin said pointer, following which the hand returns to its starting normal position.

The invention will be further understood by reference to the drawings and following description, which includes a preferred embodiment of the invention, and wherein prime marks indicate the same or similar parts and in which:

FIG. 1 is a side view, partly broken away and in section, showing the doll's right side as she sits in playing position preparatory to spinning the pointer and wherein the dot-dash line shows the arm position as the doll is ready to spin the pointer.

FIG. 2 is a fragmentary cross-sectional view taken along the line 2—2 of FIG. 1.

FIG. 3 is a cross-sectional view taken along the line 3—3 of FIG. 1.

FIG. 4 is a sectional view taken along the line 4—4 illustrating in dotted lines the partial circular motion the doll's hand undergoes in spinning the pointer.

FIG. 5 is a top view partly broken and in section, taken along the line 5—5 of FIG. 4.

FIG. 6 is a back view, partly broken away, of the doll's torso illustrating the driving and gear mechanism.

FIG. 7 is a cross-sectional view of the gear train of FIG. 6.

FIG. 8 is a side view illustrating the driving timing gear and its driven gear.

FIG. 9 is a fragmentary side view, partly broken away, of the upper part of the doll's torso.

FIG. 10 is a schematic electrical wiring diagram of the doll of FIGS. 1 to 9.

FIG. 11 is a fragmentary back view of a modification of the doll of FIG. 1 to 10 wherein the hand describes a complete circle when spinning the pointer.

FIG. 12 is a schematic-like drawing illustrating the various positions of the fingers of the modification of FIG. 11 as the hand describes a complete circle.

FIG. 13 is a fragmentary sectional view of another modification of the doll and pointer of FIG. 1 to 10 illustrating how the doll can be actuated by a manual switch when it is the doll's turn to spin the pointer.

FIG. 14 is a back sectional view of another modification of the doll of FIG. 1 to 10, which modification includes a movable head.

FIG. 15 is a fragmentary sectional view taken along the line 15—15 of FIG. 14, wherein the dotted lines illustrate the movement of the cam follower lever which moves the doll's head.

FIG. 16 is a fragmentary sectional view taken along the line 16—16 of FIG. 14, wherein the dotted lines illustrate the turning of the doll's head. Reference is now made to the drawings in detail. Looking at FIG. 1, a mechanical doll (the normal clothing is removed for clarity) having a hollow head 10, a torso 12 made up of the molded plastic split halves 14 and 16 which are fixed together as by cementing along line 18, is sitting on a floor 20 with her legs 22 extending outwardly against a table 24 which supports game board 26 and the spinner or rotatable pointers 28 and 28'. Right hand 30, is integral with the outer end of hollow forearm 32 whose inner end defines end wall 34 in which is fixed the outer portion of cylindrical shaft 36. The right hollow upper arm 38 is fixed to torso 12 and has the outer end wall 40 and the inner wall 42, said walls rotatably supporting shaft 36. Fixed to the inner portion of shaft 36 is the collar 44 of the integral crown gear 46 meshingly engaged with spur gear 48 (also see FIG. 2) fixed onto the outer end of shaft 50 transversely extending outwardly from torso 12.

In order to facilitate assembly and to readily form walls 34, 40, and 42, the forearm 32 and upper arm 38 are preferably each molded of plastic in split halves which are cemented together. This is illustrated for upper arm 38 in FIG. 3, where said upper arm 38 is formed of two split molded plastic halves which are cemented together along line 52.

Looking now at FIG. 1, 4, and 5 in particular, table 24 defines an upwardly projecting rectangular plastic frame including front wall 54 which faces the child, back wall 56 which faces the doll, and side walls 58 and 60. Front and back walls, 54 and 56 respectively, are each marked with a series of seven segments 62 which are numbered 1 to 7, and are also marked with an arrow 64 to indicate to the child that the pointer is to be spun in a counter-clockwise direction. The marking s noted above are shown in FIG. 4 as they appear to the doll, and the same markings appear on front wall 54 facing the child. The shaft 66, projecting through bores 68 and 70 is rotatably supported by front and back walls 54 and 56. Fixed on opposite outer projecting ends of shaft 66 are hubs 72 and 72', carrying the two

sets of spokes or vanes 74 and 74' respectively. Two opposite vanes of each set are marked with indicating arrow heads 76 so that there is always one arrow head in position to indicate a number marking one of said segments 62. The intermediate portion 78 of said shaft 66 defines a helical screw thread. A threaded disk-like nut 80 carried by shaft 66, and threadedly engageable therewith, has two opposite bores 82 through which loosely pass guide rods 84 fixed in walls 54 and 56, which rods 84 prevent rotation of nut 80 on shaft 66. Weak coil compression springs 86 and 86' loosely encompass shaft 66 adjacent its threaded portion 78. An electrical switch, normally opened as shown in FIG. 5 and comprising spaced spring-like terminals 88 and 90, having the respective feet 92 and 94 fixed by rivets 96 to wall 98 integral with wall 56. Electrical leads (FIG. 1) 100 and 102 extending from the insulated electrical cord 104 connect terminals 88 and 90 with metal cylindrical prongs 106 and 108 fixed in the lower portion of wall 56 and extending through said wall 56. Prongs 106 and 108 frictionally fit within metal tubes 110 and 112, fixed within the respective tubular bores 114 and 116 defined within plastic tubular member 118 which in turn is fixed within bore 120 of the foot 122. Electrical leads 124 and 126, extending from cord 128, are soldered to metal tubes 110 and 112 respectively. Cord 128 extends up leg 22 into torso 12.

Referring now to FIGS. 1, and 6 to 8, batteries 130 are mounted in battery holder 132 molded integrally with the front half section 14. A removable cover plate 134 fits in a complementary opening in the doll's back and is held in place against batteries 130 by oppositely disposed locking tabs 136 and 136'. Cover plate 134 also has an outwardly projecting tab 138 adjacent the slot 140. Cover plate 134 is molded of a slightly resilient plastic so that the tab 138 can be pushed upwardly towards the head 10 so as to move locking tab 136 also upwardly and out from engagement with the inside of back torso half 16. In this way, the cover plate 134 can be removed to allow the change of batteries 130, while it will be apparent that the cover plate 134 can be readily snapped back in place atop fresh batteries. A conventional type of metal contact 142 (FIG. 1) connects the two batteries 130 in series. Electrical leads 144 and 146 extend from the battery holder 132 in a conventional manner. The batteries 130 operate electrical motor 148 mounted on a channel-shaped frame 150 which is bolted to plastic bosses 152 extending inwardly from the front of torso 12.

The gear system is illustrated in FIGS. 6 to 8. Here, the small spur gear 154 carried on the rotatable shaft 156 of the motor 158, meshingly engages and turns spur gear 158 which is loosely mounted on shaft 160. Gear 158, in turn, drives gear 162 which is loosely mounted on shaft 50. Gear 162 drives the timing cam gear 164. Gear 164 has the integral cam portion 166, which as illustrated from the side in FIG. 8, has a series of adjacent teeth 168, extending over about a fourth of its circumference, for meshing engagement with driven gear 170. Gear 170 is fixed on shaft 50, which is fixed within the tubular eyelets 172, and 172' carried respectively by the plastic supporting walls 174 and 176 which are integral with and extend inwardly from torso front half section 14. Similar, but opposing, walls 174' and 176' are integral with and extend inwardly from torso back half section 16, (see FIG. 9.) These walls are formed with appropriate recesses for reception of shaft 160 and eyelets 172 and 172' so when the two torso halves 14 and 16 are cemented together along line 18, walls 174 and 174' abut along line 178 (see FIG. 9), while walls 176 and 176' abut along line 180, thus enclosing shaft 160 and eyelets 172 and 172', while however allowing shafts 160 and 50 to rotate.

Shaft 50 has fixed thereon the wheel or disk 182 having the integral headed boss 184, which carries an elastic tension member, e. g., a rubber band 186, whose other end is held on the hook 188 held in recess 190 by abutment of torso halves 14 and 16 (FIGS. 6 and 9). Shaft 160 has fixed on one end the conjointly rotatable, non-conducting, cam 192, having an annular rim 194, a portion of which is raised at 196. Collar 198, and washer 200 fixed on shaft 160, keep shaft 160 from moving longitudinally. The resilient metal cam follower 202 fixed proximate its outer end to wall 176 by rivets 204 (FIG. 9) has an inner free end 206 which is spring-like and moves either into electrical-conducting contact with the metal terminal strip 208, fixed by rivets 204 to wall 176, or away from said contact as it presses against and follows the surface of cam annular rim 194. Electrical lead 210 extends from strip 202, while lead 212 extends from terminal 208.

The operation of the toy of FIGS. 1 to 10 will now be described starting from the position illustrated in FIG. 5. The child spins the pointer or wheel 28' by striking one of the vanes 74' so as to spin the wheel in a counter-clockwise direction relative to the child, i.e., clockwise as it appears to the doll. As wheel 28' spins, shaft 66 fixed thereto also rotates as does wheel 28. As shaft 66 begins to rotate, its threaded portion 78 will now threadedly engage the threaded nut 80 under the urging of the spring 86' which is slightly compressed. As shaft 66 continues to rotate, nut 80, which is prevented from rotating by its guide rods 84 will be screwed along shaft 66 until it passes out of threaded engagement with threaded portion 78 and will bear against and will compress spring 86 slightly as it assumes the position illustrated in FIG. 1. As seen by FIG. 1, nut 80 now presses the flexible electrical terminal 90 into contact with terminal 88. As the momentum imparted to wheel 28' by the child striking it is finally dissipated, wheel 28', shaft 66, and wheel 28 all come to rest. The child then determines the number of the numbered section 62 facing the child where the arrow 76 of a vane 74' comes to rest, and accordingly moves her marker, e.g., the ring 214, on game board 26 the number of squares 216 indicated.

Returning now to the point in time where terminals 90 and 88 are forced into contact by nut 80, reference is now made to the wiring diagram of FIG. 10. The doll's cycle of operation is started by contact of terminals 88 and 90 whereupon current will now flow from batteries 130, through lead 146, lead 124, prong or plug receptacle 110, the prong or plug 106, lead 100, terminal 88, terminal 90, then through lead 102, plug 108, plug receptacle 112, lead 126, lead 149, motor 148, lead 142, and finally lead 144 to batteries 130.

As motor 148 turns in response to said current flow, it rotates the gear train 158, 162 and 164 which reduces the high speed of the motor to a relatively slow,

but strong, rotation of cam gear 166, e.g., gear 166 will now rotate one revolution in say about 8 to 20 seconds, i.e., about the length of time a person would normally spend from the time wheel 28' stops after being spun by the child, until a person playing the game with the child would take his turn and spin the wheel 28. As the driving cam gear 166 slowly rotates in the clockwise direction of the arrow (FIG. 8) eventually the set or series of teeth 168 will come into engagement with driven cam follower gear 170, thereby causing said gear 170 to rotate counter-clockwise, which in turn rotates the conjointly rotatable shaft 50 against the tension of rubber band 186 which now begins to stretch. Shaft 50 rotates spur gear 48, which rotates crown gear 46, which rotates shaft 36 so that the hand 30 moves from position *a* to *c* and then snaps back suddenly to *a*, under the bias of resilient means 186 when the last of teeth 168 pass out of meshing toothed engagement with follower gear 170. Looking now at FIG. 4, where the position of hand 30, whose fingers are shown in cross section, is shown at three different stages which it passes through during the preceding operation, namely positions *a*, *b* and *c*. Hand 30 is at position *a*, indicated in solid lines, at the start of the cycle and relatively slowly moves, (e.g., in about one or two seconds) through the dotted line position *b* to dotted line position *c* as teeth 168 rotate gear 170. As hand 30 moves from *b* to *c* it will enter between adjacent vanes 74*a* and 74*b* and will strike any vane in its path, e.g., vane 74*a*, and move said vane 74*a* back to the dotted line position as shown, by slightly rotating wheel 28 clockwise. Since all vanes 74 have rounded outer ends and are positioned so that hand 30 barely fits between adjacent vanes when said hand is in position *c*, then the initial position of the vanes adjacent the hand at the start of the doll's cycle is not critical since the hand 30 will always move the vanes to the dotted line position and will always end up in position *c* between a pair of adjacent vanes as shown. When hand 30 is fully in position *c* it will be adjacent and between the vanes indicated at 74*a* and 74*b*. Now, suddenly (e.g., over a fraction of a second) hand 30 (as teeth 168 pass out of engagement with gear 170) is snapped back from position *c*, through position *b* and back to its starting position *a* as rubber band 186 suddenly contracts. As hand 30 moves from *c* to *b* it will sharply strike against vane 74*b* (which is in its dotted line position of FIG. 4) thereby rapidly spinning the pointer 28 in a counter-clockwise direction. Thus the doll has spun the pointer 28. As pointer 28 spins, the threaded nut 80, which is proximate terminals 88 and 90 as in FIG. 1, under the bias of spring 86 now becomes engaged with threaded portion 78 of shaft 66 which is now rotating as it is fixed to spinning pointer 28. Nut 80 is screwed back across portion 78 toward the child's side to the position shown in FIG. 5. Actually, it is not essential that nut 80 returns all the way to the position shown in FIG. 5, but only that it moves away from pressing terminal 90 into contact with terminal 88 so that the switch represented by these terminals open. Eventually pointer 28 loses momentum and stops. The child then reads off the doll's number by simply determining which marked segment 62 an arrow 76 of a vane 74' of pointer or spinner 28' stops on the child's side, since pointer 28' is in fixed alignment with pointer 28. The child then moves the doll's marker, e.g., a square marker 218, the number of spaces on game board 26 indicated by numbered segment 62 pointed to by said arrow head 76.

Reference is now made again to the schematic design of FIG. 10 and FIGS. 6 to 9 since the wiring system will be further discussed. At the start of the doll's cycle, and as cam gear 166 first begins to rotate, it in turn, rotates shaft 160 to which it is fixed, which rotates cam 192. As cam 192 rotates, the flexible outer portion 206 of contact strip 202 moves into contact with terminal strip 208 so that current can now flow (FIG. 10) through the circuit 146, 210, 202, 208, 212, 149, 148, 147, and 144 back to batteries 130. At this point, the operation of motor 148 is no longer dependent on terminals 88 and 90 being in contact. As driving gear 166 nears completion of a complete revolution and the spinner 28 is spun by the doll, cam 192 rotates to the point where its raised surface 196 raises the cam follower strip 202 free portion 206 out of contact with terminal strip 208 to thereby break the circuit and stop the motor 148, thereby completing the doll's cycle since terminals 88 and 90 will no longer be in contact after the doll spins pointer 28. The gear and cam assembly then assumes once again the starting position shown in FIG. 6.

It will be apparent that the child and doll can continue to alternate in spinning the pointer in the aforesaid manner to completely play a board game with the child moving both her own marker and that of the doll.

FIGS. 11 and 12 represent a variation of the prior embodiment of FIGS. 1 to 10 wherein hand 30 makes a full circle, while also revolving around its own axis, from starting position *a*, to *b*, *c*, *d*, and then back to *a* and then stopping, to thereby complete a cycle during which hand 30 strikes a vane 74, in moving from *b* to *d*, of wheel 28 to spin said wheel 28 in a clockwise direction. This can be accomplished as shown by FIG. 12, by simply eliminating the resilient means represented by elements 182 to 190 of said prior embodiment of FIGS. 1 to 10, and adjusting the gear ratio of spur gear 48 to crown gear 46 so as to convert the rotation of gear 170 by cam gear 166 into a complete 360 rotation of shaft 36, and reversing the direction of arrows 64 and the threaded portion 78.

FIG. 13 represents a modification of the embodiments of FIGS. 1 to 10 and of FIGS. 11 and 12. Here, the headed pushbutton 216, whose outer portion is encircled by coil compression spring 218, has stop or collar 220, normally bearing against the rear wall of table 24', while its inner end is supported and is slidable within bore 222 defined in a tab or wall 224 molded integrally with table 24'. Electrical terminals 226 and 228 fixed to wall 224 are engageable with the electrical conducting washer 230 fixed on collar 220 of the non-conducting pushbutton 218. In operation, when it is time for the doll to take its turn and spin wheel 28, the child signals the doll by depressing non-conducting pushbutton 216 against the bias of spring 218 so that washer 230 is moved inwardly and contacts terminals 226 and 228 to complete a circuit between leads 100' and 102' carried by cord 104. The result in initiation of the doll's cycle as previously described in detail with regard to the embodiment of FIGS. 1 to 10. Thus, when the child subsequently releases pushbutton 216 so that it is returned to its original position of FIG. 13 under

the urging of spring 218, the terminals 202 and 208 (see FIG. 10) are in contact and further action is independent of pushbutton 216. By this type of manually operated pushbutton switch 216, the need for the automatic switch involving terminals 88 and 90, nut 80, etc. of the embodiment of FIGS. 1 to 10 is eliminated. It will be apparent that the pushbutton switch of FIG. 13 may also be used with the embodiment of FIGS. 12 and 13.

FIGS. 14 to 16 illustrate mechanism whereby the doll appears to glance at her right hand before she spins the wheel 28, thus appearing more life-like and natural. Specifically, head 10' is fixed on neck disk 250 in which is fixed the upper end of pivot member 252 defining the transversely projecting lever arm 254. Washer 256, surrounding pivot 252 acts as a spacer between disk 250 and the neck portion 258 of the doll's torso. Annular flange 260, integral with pivot 252, bears against the underside of neck portion 258 to hold rotatable pivot 252 in place and prevent upward movement. Lever 262, pivotally and loosely mounted on shaft 50 for independent movement relative to said shaft 50, has its lower cam follower portion 264 bearing against cam 266 fixed on shaft 160. The upper portion of lever 262 is formed with a transversely extending aperture, or slot, 268 through which arm 254 loosely projects. Coil compression spring 270, has its outer portion disposed within the tubular boss 272 molded integrally with the doll's front torso section 14'', while its inner end bears against said lever 262 to maintain cam follower portion in sliding engagement with cam 266. The upper portion of tubular boss 272 is slotted so as to form a pair of ears 274, disposed on either side of lever 262, which act as guides to maintain said lever from shifting transversely on shaft 50. During operation of the wheel spinning mechanism previously described with regard to the embodiment of FIGS. 1 to 10, then as shaft 160 slowly rotates, it, in turn, rotates cam 266 fixed on shaft 160. Cam 266 moves lever 262 between its normal position (as shown in FIG. 20 by solid lines, wherein the doll head 10' is looking straight ahead) to the dotted line position of FIG. 20 as cam 266 moves to its dotted line position of FIG. 20. This results in moving lever arm 254 from position X to position Y of FIG. 21, which, in turn, rotates the head 10' so that face and eyes 278 are now in the dotted line position of FIG. 21 and appear to be looking towards the doll's right hand. As cam 266 further rotates, the doll's head will slowly turn back under the action of spring 270 to its normal position looking straight ahead.

In summary, the invention provides a toy combination of a doll and a spinnable pointer wherein the doll can spin the pointer to thereby take part in a game with the child. The pointer may be mounted on a frame, e.g., the table 24 of FIG. 1, which includes plugs 106 and 108 for electrically connecting the motor of the doll to a starting switch, e. e.g., the switch including members 88 and 90 of FIG. 1, or the pushbutton switch of FIG. 13. These plugs 106 and 108 also serve as guide means for positioning the doll relative to the pointer, so that once the doll is plugged into members 106 and 108 she will be in correct alignment for operating the pointer. Also, the doll can be unplugged, i.e., separated from plugs 106 and 108 and used for conventional play. Thus, the child can play with the doll in the same way as with other conventional dolls. However, when the child wants to play a game with the doll, the child then plugs the doll into the aforesaid frame or table.

I claim:

1. A toy combination comprising a spinnable pointer, indicia located to be indicated by said pointer, means rotatably mounting said pointer for unbiased spinning about an axis to indicate said indicia by chance as it comes to rest after being spun, and a doll, said doll including a torso, a hand adapted to spin said pointer and movable between a position out of contact with said pointer and a position in contact with said pointer, a battery-operated electric motor, actuating means operated by said motor to move said hands between said positions whereby said doll spins said points, and switch means for starting and stopping said motor.

2. A toy according to claim 1, wherein said switch means includes terminals movable between an open and a closed position and resilient means normally holding said terminals in their open position, a shaft rotatable with said pointer and defining a screw thread, and a nut movable in one direction along said screw thread during rotation of said pointer in one direction and engagable with said terminals to move said terminals from said open position to said close position against the bias of said resilient means, said nut being movable in an opposite direction during rotation of the pointer in the opposite direction to allow said terminals to open.

3. A toy according to claim 2, wherein said pointer includes a pair of pointers fixed on said shaft, a frame rotatably supporting said shaft, said terminals being mounted on said frame proximate one end of said shaft, said screw thread being defined proximate the middle of said shaft, springs disposed around said shaft between said frame and said screw thread, each of said springs when contacting said nut urging said nut into threaded engagement with said screw thread.

4. A toy according to claim 1, wherein said actuating means include a first shaft rotatable supported by said torso, a cam wheel driven by said motor and defining a series of cam teeth or projections, a cam follower engagable with said projections and fixed on said first shaft whereby said first shaft is rotated when said cam projections engage said cam follower, said doll further including an arm carried by said torso, a second shaft carried by said arm and conjointly rotatable with said hand, and connecting means between said first and second shafts whereby rotation of said first shaft is transmitted into a circular movement of said hand between said positions.

5. A toy according to claim 4, wherein said arm comprises an upper arm carrying said second shaft and a forearm defining said hand fixed to said second shaft at an angle to said upper arm, whereby said circular movement of said hand has a diameter greater than the width of said hand.

6. A toy according to claim 5, having resilient means disposed between said first shaft and said torso resisting rotation of said first shaft, and wherein said cam wheel partly rotates said cam follower and said first shaft relatively slowly through less than a complete revolution of said first shaft against the bias of said resilient means and then disengages from said cam follower whereupon said resilient means rapidly snaps back said first shaft to its original position, and wherein said pointer includes a

set of vanes radially extending from a common hub, said hand under the aforesaid movement of said first shaft moving from a position above said vanes and out of contact with said pointer relatively slowly to a position between adjacent vanes and contacting said pointer, and then rapidly snapping back to its original position out of contact with said pointer while striking a vane.

7. A toy according to claim 1, wherein said pointer is mounted on a frame, said frame including guide means for positioning the doll relative to said pointer whereby the doll is in a position to spin said pointer.

8. A toy according to claim 7, wherein said switch means includes a starting switch mounted on said frame, and said guide means includes electrical connecting means for making an electrical connection between said motor of said doll and said starting switch.

9. A toy according to claim 1, wherein said switch means includes an electric switch actuated by rotation of said pointer in one direction to start said motor.

10. A toy according to claim 1, wherein said hand is carried on a rotatable shaft carried by said doll for movement of said hand in at least a partial circle as it moves between said positions, and said actuating means includes a cam system in said doll between said motor and said rotatable shaft for rotating said shaft and effecting said movement of said hand.

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