A game board formed of a frame defining a playing surface with means such as a pair of superimposed, diversely moving, flexible sheets for remotely producing controlled diverse movements of playing pieces resting on the playing surface. The lower sheet has magnetic areas and the game pieces incorporate magnets or a magnetic element movable between positions in which their magnetic fields, respectively, may interlink with one or more of the magnetic areas, thereby causing the pieces to stand or move with the lower sheet, and other positions in which their fields clear the magnetic areas whereby the game pieces will fractionally adhere to the upper sheet for standing or moving therewith, irrespective of the movement of the lower sheet. Controlled powering means is provided whereby the players may produce selected diverse movements of their respective game pieces in accordance with the game rules. Related game ball action is simulated by the means of a bead on a rod with variable directional settings from a bridge piece placed over the playing surface.

10 Claims, 14 Drawing Figures
REMOTE CONTROLLED FOOTBALL GAME WITH PASS PLAY APPARATUS

BACKGROUND OF THE INVENTION

Toy games which are intended to simulate action games are enjoying increased popularity today. This relates to the preoccupation of the American people with action sports and the increase of leisure time and a standard of living that allows spending for leisure time activities.

However, the toy games which are available at present involve mostly luck, rather than skill, and are without remote directional control of the action of selected individual players or selected groups of players. Game ball movement is generally inadequately treated and without realistic simulation of actual game behavior.

Action toy games offering remote control of players and more accurately rendered game ball action will allow simulation of game play very close to actual full size games and would have broad appeal.

It is desirable in an action toy game concept that children be intrigued with the movements, yet the movements be within their control. Also desirable, however, are the full implications of developed and executed strategy and action that will appeal to adults.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide game apparatus whereby two players may simulate an action game and which requires the application of substantial skill and foresight in the manipulation of the game pieces. In accordance with the invention there is provided in a preferred form a frame rotatably mounting pairs of spindles at the ends and sides thereof about which extend continuous loops of flexible material, at least the upper portions of which are disposed in closely superposed relationship. The spindles are driven by motors with remote controls whereby the players may actuate the superposed sheets oppositely and at ninety degrees to each other. The lowermost of the superposed sheets has separated areas of magnetic material, for instance, along the lines of magnetic recording tapes, while the upper sheet is non-magnetic. Game pieces rest on the upper sheet, which forms the playing surface, each piece having a magnet which is movable between a lower position, in which its field may interlink with at least one of the mentioned magnetic areas for causing the piece to follow the lower sheet, irrespective of movement of the upper sheet, and an upper position in which the piece will frictionally adhere to the upper sheet, irrespective of the movement of the lower sheet. Related game ball action is simulated by the means of a bead on a rod with variable directional settings from a bridge piece placed over the playing surface. Thus, the game pieces and game ball may be caused to move about somewhat in the manner of the actual game players and ball, and, by adhering to game rules, the players may engage in a challenging and pleasing game simulating, for instance, American-style football.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings, FIG. 1 is an isometric view of the game board with game pieces mounted thereon in six-man football array. FIG. 2 is a vertical section through one of the game pieces substantially enlarged. FIG. 3 is a similar view of a game piece in a different operative position. FIG. 4 is a schematic representation of the apparatus, certain framing pieces being omitted and the game pieces being substantially enlarged for clearer illustration of the operative principles. FIG. 5 is a view similar to FIG. 4 and illustrating a different manner of movement of the game pieces. FIG. 6 is an isometric view showing a part of one of the looped sheets which produce movement of the game pieces. FIG. 7 is an isometric view of a modified arrangement of the game board.

FIG. 8 is a section taken on line 8—8 of FIG. 7. FIG. 9 is a wiring diagram of the powering and control means. FIGS. 10A, 10B, 10C, 10D, and 10E are schematic representations illustrating game moves.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The game apparatus as illustrated in FIG. 1 consists of a basic frame including hollow side pieces 12 and 13 and similar end pieces 14 and 15. Within these frame pieces (see FIGS. 4 and 5) are rotatably mounted oppositely placed pairs of rollers or spindles 16 and 17 and 18 and 19. About the pairs of spindles 16 and 17 there is received a continuous loop 20 of flexible sheeting, while about the other pair of rollers or spindles 18 and 19 there is received a second continuous loop of flexible sheeting 21. Spindle 16 is driven by a reversible motor 22, and spindle 19 is driven by a reversible motor 23, both through suitable reduction gearing not shown. Mounted at the other diametrically opposite corners of the frame are motor control levers 24 and 25 (FIG. 1) projecting through intersecting guide slots 26, 27 and 28, 29. Each motor is provided with a timer 30, 31 (see FIG. 9) having an adjusting knob as 32, 33. Great posts 34 and 35 (FIG. 1) project from each end frame member while yard markings extend along the side frame members, as at 36.

The game pieces, as best shown in FIGS. 2 and 3, are identical except for team designations, such as coloring. Each has a body 40 with pivoted arms 41 and 42. A small magnet 43 is rigidly received in the countersink 44 at the bottom of an axial orifice extending through the body. The orifice has an intermediate portion 45 separated from countersink 44 by an angular shoulder 46, which, in practice, may be formed by a split ring or otherwise, and terminated at the top by means of an annular shoulder 47 through which extends a pin or neck 48 having a bulbous upper extremity 49 simulating the helmeted head of a football player. Formed immediately on pin or neck 48 is a collar 50 which is normally urged against shoulder 47 by means of a coiled spring 51 seating at its lower end against vertical ribs 59 forming annular shoulders 52 in the wall of orifice portion 45. Detent fingers 53 depend from the bottom end of pin 46 on both sides thereof.

A pin 54 projects upwardly from magnet 43 through shoulder 46 and terminates in a tootbed 55 having deep recesses 56 and shallower teeth 57 in the wall thereof. A light spring 58 urges the magnet and cup unit upwardly. These aligned parts with orifice 44, 45 form a more-or-less conventional prop and repel mechanism of the well-known ball-point pen type. When downward pressure is applied to the helmeted end 49 of the pin 48, detent fingers 53 are urged downwardly against registering teeth 57 to depress cup 55 sufficiently to clear orifice wall ribs 59 so that the cup unit will rotate one step. Upon release of end 49, cup 55 is urged upwardly by its coiled spring 58, ribs 59 alternately seating against teeth 57 and slots 56. Following alternate indexing of cup 55 in this manner, magnet 43 will be alternately positioned at the bottom of countersink 44, as in FIG. 2, and upwardly in the vicinity of shoulder 46, as in FIG. 3.

FIG. 6 illustrates a portion of the flexible loop 20, the upper portion of which underlies the corresponding portion of loop 21. In order to cooperate with magnets 43 in the playing pieces, loop 20 is provided with separated areas 61 of magnetic material, the intervening areas being non-magnetic. This arrangement of magnetic areas is such that when a magnet 43 of a playing piece is in its lowered position, as in FIG. 2, its magnetic field will interlink with the nearest magnetic area or areas 61 of loop 20 causing the corresponding playing piece to remain stationary or move with loop 20 irrespective of the movement of upper loop 21 upon which the playing piece rests. On the other hand, when a magnet 43 is in its upper position, as in FIG. 3, its field will substantially clear magnetic areas 61 so that the playing piece will frictionally adhere to upper loop 21 irrespective of the condition of movement of lower loop 20. In FIGS. 2 and 3, the lower loop 20 is illustrated as consisting of separately formed magnetic and non-
magnetic areas. However, this is merely illustrative, and it would be preferable to form the magnetic areas by some process which will merely impregnate the isolated areas to be rendered magnetic. Also, it would be possible to reverse the magnetic effects by magnetizing areas 61 and having element 43 in the playing pieces of magnetic material to serve as the armature portions of the system. The degree of magnetism and the absolute size of the magnetic areas will be empirically determined in order to achieve the desired selective movements of the playing pieces that will be described.

FIGS. 4 and 5 schematically represent the types of individual playing piece movements which can be remotely produced in connection with a planned system of play action moves. In FIG. 4, a playing piece generally designated 65 has its magnet 43 lowered so as to respond to movements of lower band loop 20, while the other playing piece 66 has its magnet 43a raised so that the playing piece frictionally adheres to upper band loop 21. Assuming a movement of upper band loop 21 in the direction indicated by arrow 67, while lower band loop 20 remains stationary, playing piece 65 also will remain stationary while playing piece 66 will follow upper band loop 61 to the dotted line position 66a, as indicated by arrow 68. In FIG. 5, it is assumed that upper band loop 21 remains stationary while lower band loop 20 is moved in the direction indicated by arrow 69. Now, helmeted head 49 of piece 65 has been tapped downwardly, which has the effect of lifting magnet 43, while head 49a has also been tapped downwardly which lowers its magnet 43a. Thus, piece 65 will frictionally adhere to stationary upper band loop 21 and piece 66 will move laterally, as indicated by arrow 70, following band loop 20, to position 66b shown in dotted line.

FIGS. 7 and 8 show additional equipment for simulating passing or kicking action. A bridge 74 is placed on side frames 12 and 13 spanning the playing surface. A rod 75 is secured in a sleeve 76 as by means of a set screw 77. A pindle 78 projecting sidewardly from sleeve 76 is rotatably received in a bearing cup 79 projecting above a bracket 80 which slidably embraces bridge 74. A set screw 81 provides for locking rod 75 in a desired position. A bead 82 is slidably received on rod 75. A balance weight 75a may be provided at the short end of rod 75 which, preferably, may extend about half the length of the playing field. FIG. 7 also shows offensive and defensive playing pieces 83 and 84 with their arms extended upwardly and in pass play receiving positions and quarterback 85 in pass throwing position.

FIG. 9 illustrates an exemplary wiring diagram for actuating the hand-operating motors and the remote motor controls. A source of electrical power is shown at 86, for instance, ordinary 120-volt house current, and this is connected to a transformer 87. (A rectifier, not shown, also may be provided if DC motors are used.) The secondary of the transformer is connected through pairs of wires 88 and 89 to timers 30 and 31 having adjusting knobs 32 and 33, as previously mentioned. One side of the timed current is led through wires 90 and 91 to movable contacts 92 and 93 of four-position switches generally designated A and B. Contacts 94 and 95 of switch A are connected by wires 96 and 97 to forward and reverse leads 98 and 99 of motor 23 which drives spindle or roller 19 and longhaul (cooper) back piece 21. Common lead 100 of motor 23 returns to the secondary of transformer 87. Motor leads 98 and 99 also may be energized from contacts 101 and 102 of switch B.

The other contacts 104 and 105 of switch A and 106 and 107 of switch B are connected, respectively, by wires 108 and 109 and 110 and 111 to the forward and reverse leads 112 and 113 of a motor 22 which drives spindle or roller 18 and belt 20. Four-way switches A and B are actuated, respectively, by levers 24 and 25 so that the motors can be selectively actuated by manipulation of either of the levers by either of two players, for instance, in turn.

FIGS. 10A–10E illustrate a series of moves constituting one rather elemental action play utilizing six men (playing pieces) on each side which may be initially aligned, as in FIG. 10A, wherein the offensive team players are shown with dark helmets and defensive players with unshaded helmets. The offensive team utilizes three linemen 115, 116, and 117 and three backers 118, 119, and 120 arranged stepwise to the right. Four defensive players 121–124, inclusive, are arranged on the line and the other two defensive players 125 and 126 are positioned as line backers. It is assumed that the rules will provide for the ball to be prearranged to be set to be used at predetermined time periods to be set with the use of timing knobs 32 and 33. The timer therefore establishes the distance of a move.

Prior to the first move, the offensive player designates piece 119 as the ball carrier and taps the helmets of selected players causing the magnets of linemen 115 and 117 to be raised so that these men will remain stationary for a lateral move, and causes the magnets of center 116 and backs 118, 119, and 120 to be in a lowered position for a lateral move. The defensive player is allowed to tap the helmets of his players in anticipation of the offensive player's move. In this example, he anticipates a lateral move and raises the magnets of the four linemen and lowers the magnets of the two defensive backs. The offensive player then makes his move, positioning lever 24 in the direction to cause magnetic undersheet to move to the right. All players with magnets in down position now move the distance allowed by the timer. Offensive men, center 116 and backs 118, 119, and 120, move to the right. Defensive backs 125 and 126 also move to the right as the offensive players move.

It is now the turn of the defensive operator who moves his linemen 122 and 124 forward as indicated by the arrows II. All offensive playing pieces have remained stationary during this defensive movement. Now the offensive operator, in his turn, elects to move his three backers forwardly, as symbolized by the arrow projections, while all defensive men have remained stationary, it being understood that the helmets of linemen 122 and 124 have been again tapped to achieve this result.

Now with reference to FIG. 10B, defensive operator decides to move his right end 121 and right tackle 122 leftwardly, as symbolized by the broken arrows IV, while offensive playing pieces remain stationary. Offensive player now moves his linemen 116 and 117 leftwardly, as indicated by the arrows V, while defensive men remain stationary. This has the effect of shifting defensive right tackle 122 back to his play IV position (see FIG. 10C). The sixth move (defensive) involves shifting of left end 124 rightwardly as symbolized by the arrow VI, while all other men remain stationary. In his move number seven, offensive player shifts his two linemen 116 and 117 and all three backers 118–120 forwardly (arrows VII). In move eight, FIG. 10D, defense linemen 122 moves to his left, as symbolized by the dashed arrow VIII, no other men moving at this time. Also shown on FIG. 10D is offensive player's move nine in which his three backers 118–120 and his right end 117 all move forwardly, as symbolized by the arrows IX. In the final movement of this play (FIG. 10E), defense moves his right tackle 122 to his left to contact previously designated ball carrier 119, which constitutes a tackle.

If the offensive play is to be a forward pass, the offensive player during his turn sets potential receivers with arms extended overhead down-field. The defensive player will be responsive by moving his defensive backs with arms extended to cover the potential receivers. Meanwhile, the defensive player can rush the quarterback. At the moment the offensive player wishes to throw the ball, the bridge 74 is mounted on the game framing and the bead 82 is placed over the quarterback's head and passing rod 75 oriented down-field in the direction desired. The offensive player with a flick of his finger drives the bead down-field as nearly as possible to where he wants the bead to stop on the rod. First the offensive player, then the defensive player, has a move to attempt to touch the ball (bead) moving a selected game piece either laterally or longitudinally. If the offensive player's piece touches the bead in one move, the pass is completed and the normal sequence.
of defensive and offensive moves continues. If the offensive player's piece does not complete the pass and the defensive player's piece touches the ball on his move, the pass is intercepted and the normal sequence of offensive and defensive moves continues. If neither the offensive nor defensive player's piece touches the ball in its respective single moves, the pass is considered incomplete.

Punts are executed by placing the bridge on the game framing with the head over the kicker head. The rod 75 is aimed for the desired direction of the kick and the head flicked down-field with the distance on the rod establishing the distance of the kick. A hard head and a hard tip on the rod will allow the head to rebound, so that if the head is flicked too hard the final rebounded location of the head will establish the length of the kick.

Kickoffs will be the same general procedure as punts, but with the playing pieces in required game positions for kickoff plays.

Field goals are simulated by utilizing frame 74 and orienting rod 75 between the goal posts. The head is placed over the kicker's head and the head flicked toward the goal post. If the head stops over zone 130, the field goal attempt is considered good.

Extra points would be executed the same as field goals from the proper field location after a touchdown.

The rules of the game may be modified as needed to increase the enjoyment of the game, and the rules and corresponding play actions as set forth above are intended to be merely exemplary. The spindles 18 and 19 may be driven and controlled manually. The game action described herein uses six-man football as an example for the remote controlled player action and related ball movement concepts. The game principles can be similarly applied to all action team sports such as eleven-man football, basketball, soccer, hockey, and volleyball, also individual action games such as golf, tennis, and handball, also racing games such as auto, motorcycle, horse and dog racing, and to track and field events. Various modifications may be made in the structure shown and described as will occur to those skilled in the art, and the exclusive use of all modifications as come within the scope of the appended claims is contemplated.

1. Game apparatus comprising a plurality of sheets one superimposed upon the other, said sheets being movable in different directions relative to each other in their respective planes, a game piece supported on the upper of such sheets, and means incorporated in said piece and said movable sheets functioning to constrain said piece selectively to follow the motion or absence of motion of either of said sheets.

2. Game apparatus as described in claim 3 in which the underlying one of said sheets includes magnetic material and said device comprises a magnet or a magnetic element which is shiftable, respectively, between positions in which its field, respectively, effectively links with and clears said magnetic material.

3. Game apparatus as described in claim 2 in which said magnetic material is disposed in separate areas on said latter sheet.

4. Game apparatus as described in claim 2 in which said game piece has a base portion for resting on the upper of said sheets and adapted to frictionally adhere to said upper sheet, when said magnet is in said second position, irrespective of movement of said magnetic material.

5. Game apparatus as described in claim 2 including a plurality of said game pieces each constructed for movement with either of said sheets in accordance with the positioning of its magnet.

6. Game apparatus as described in claim 2 in which said game piece further incorporates magnet or magnetic element positioning means including an element adapted to be manipulated to cause said magnet or magnetic element alternately to assume and hold said respective positions upon actuation of said element.

7. Game apparatus as described in claim 1 further including a generally planar frame and pairs of spaced apart parallel spindles mounted in said frame, said sheets being of flexible material and each drivingly engaging one of said pairs of spindles.

8. Game apparatus as described in claim 7 further including motor means for individually driving said pairs of spindles and said sheets and manual controls for said motor means.

9. Ball game apparatus comprising a support frame, a playing surface, a game piece for resting on said surface and movement thereon, a slide for movable mounting on said frame, a pivoted rod on said slide for selective disposition with respect to said frame, a ball mounted on said rod and movable with said rod along said slide in simulation of the path of a ball in flight and generally parallel to said surface, and means for moving the game piece in a manner to intercept said ball.

10. Ball game apparatus as described in claim 9 in which said playing surface is formed by a first movable sheet and further including a second movable sheet with magnetic areas underlying said first sheet, and a magnet incorporated in said game piece and movable between first and second positions in which its field, respectively, interlinks with and clears at least one of said magnetic areas whereby said piece, when resting on said first sheet, will follow one or the other of said sheets in accordance with the positioning of its magnet.

* * * * *