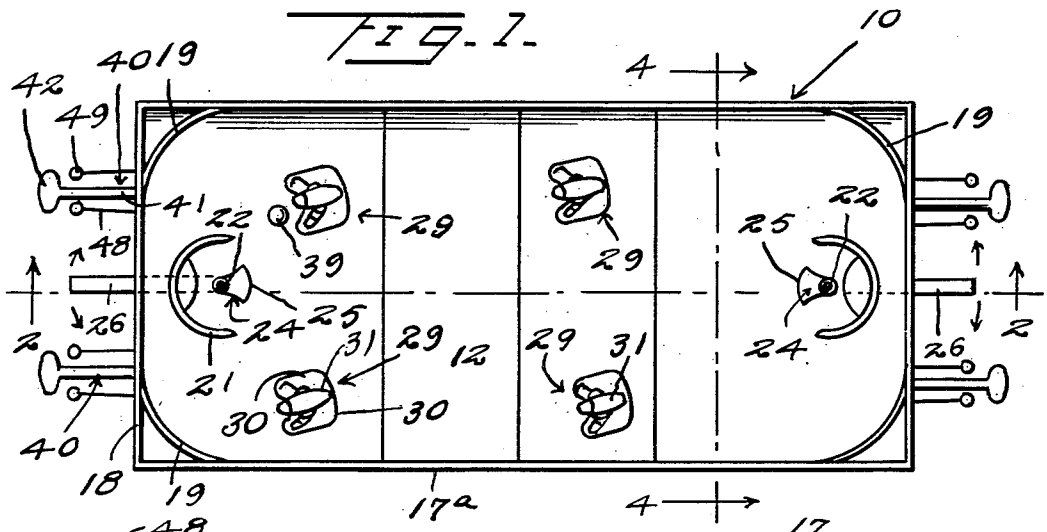
Aug. 23, 1955 B. W. YAEGER 2,716,028

MAGNETICALLY OPERATED GAME APPARATUS

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FIG. 1.



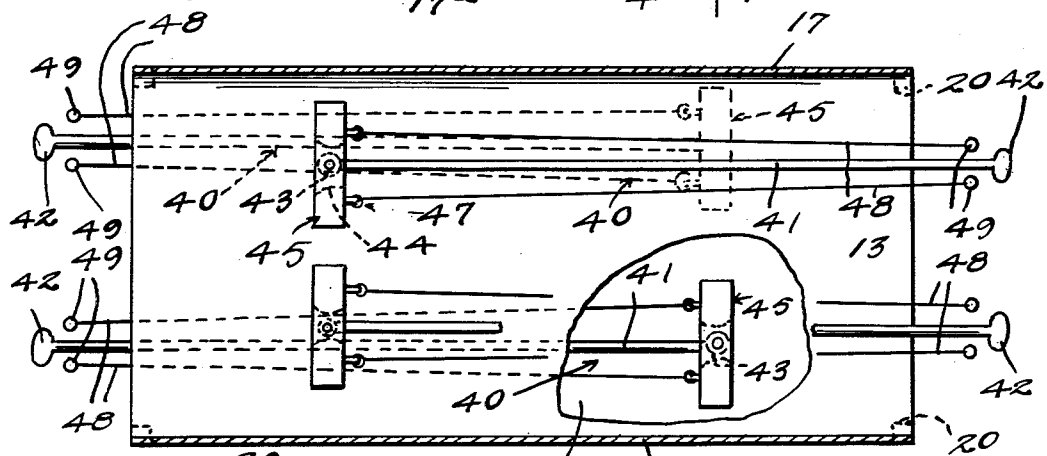


FIG. 3.

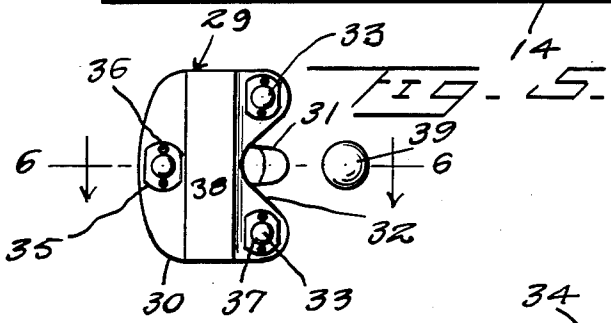
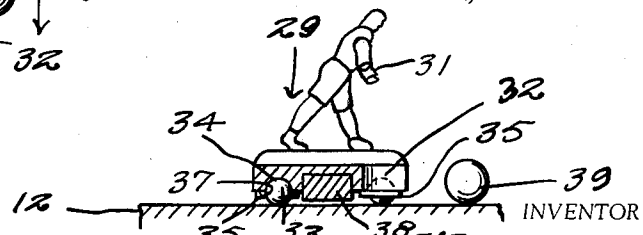


FIG. 5.

FIG. 6.



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MAGNETICALLY OPERATED GAME APPARATUS

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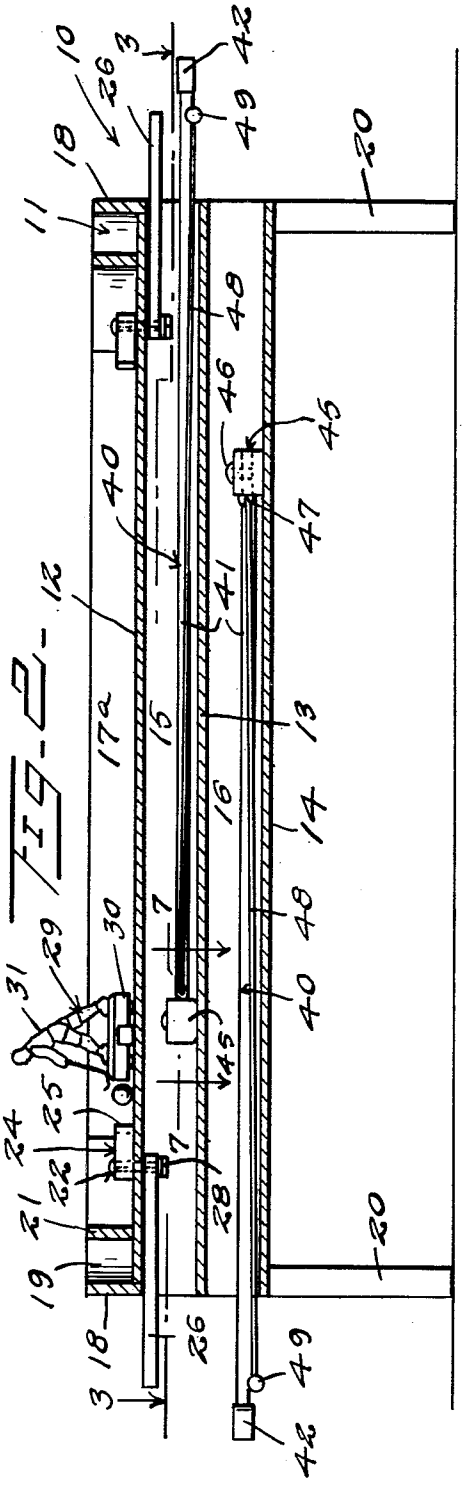


FIG. 2

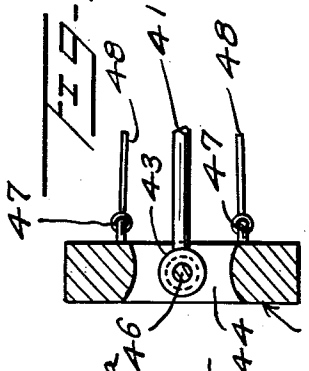


FIG. 3

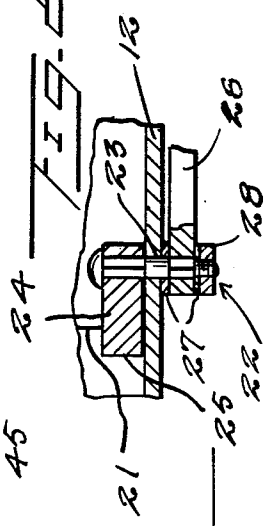


FIG. 4

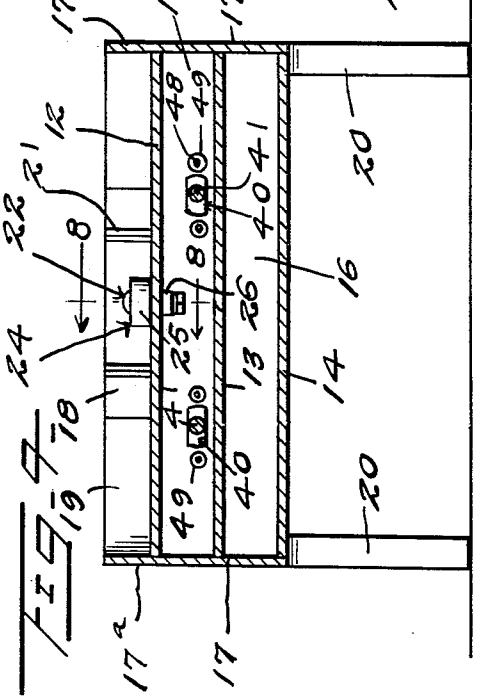


FIG. 5

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MAGNETICALLY OPERATED GAME APPARATUS

Bernard W. Yaeger, Garden City, Mich.

Application August 8, 1952, Serial No. 303,239

6 Claims. (Cl. 273—85)

This invention relates to a novel game apparatus adapted to be played by two or four players and which is constructed to realistically simulate a game played on a large area and wherein the parts simulating contestants are magnetically manipulated in accomplishing the play of the game.

More particularly, it is an aim of the present invention to provide a game apparatus primarily intended to be constructed to simulate the game of hockey having player simulating parts which are magnetically moved and manipulated on a playing surface, whereby an element simulating a puck is propelled by manipulation of the player simulating members toward the goals or cages of the apparatus.

Still a further object of the invention is to provide a game apparatus as aforedescribed having a playing surface constructed to very realistically simulate a hockey field or rink including novelly constructed and operated goal tending units simulating a "goalie" or goal tender.

Still a further object of the invention is to provide novel magnetic actuators operated by the two or four contestants engaged in the play of the game for moving, turning and otherwise manipulating the player simulating pieces.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a plan view of the game apparatus;

Figure 2 is an enlarged longitudinal sectional view thereof taken substantially along a plane as indicated by the line 2—2 of Figure 1;

Figure 3 is a horizontal sectional view of the game apparatus taken substantially along a plane as indicated by the line 3—3 of Figure 2 and on a scale substantially corresponding to the scale of Figure 1;

Figure 4 is a cross sectional view of the game apparatus taken substantially along a plane as indicated by the line 4—4 of Figure 1;

Figure 5 is an enlarged bottom plan view of one of the player simulating units and showing the "puck" simulating element located adjacent thereo;

Figure 6 is a vertical sectional view taken substantially along a plane as indicated by the line 6—6 of Figure 5;

Figure 7 is an enlarged horizontal sectional view of a portion of one of the manipulating devices, and

Figure 8 is an enlarged fragmentary vertical sectional view taken substantially along a plane as indicated by the line 8—8 of Figure 4.

Referring more specifically to the drawings, the game apparatus in its entirety is designated generally **10** and comprises a supporting structure, designated generally **11**, including a substantially flat upper ply or board **12**, an intermediate board or ply **13** and a bottom board or ply **14**. The boards **12**, **13** and **14** are disposed in spaced apart relationship to one another to form a space **15**, constituting an upper space, between the boards **12** and **13** and a lower space **16** between the boards **13** and **14**. The boards **12**, **13** and **14** are connected at their side edges to

side walls **17**, by means of which said boards are maintained in properly spaced relationship. Likewise, the side walls **17** close the sides of the spaces **15** and **16** which extend from end-to-end of the supporting structure **11** and which are open at their ends, as clearly illustrated in Figures 2, 3 and 4.

The upper board **12** constitutes the playing surface of the game apparatus **10** and the side walls **17** extend upwardly from the sides thereof as indicated at **17***a* to combine with upstanding end walls **18** to form an upstanding board or retaining wall around the playing surface. The playing surface is also provided with upstanding concavely or arcuately rounded corner strips **19** connecting the walls **17***a* and **18** adjacent the corners thereof and forming rounded corners of the playing surface, as best illustrated in Figure 1. The supporting structure **11** is provided with depending supporting legs **20** which are fixed to and depend from the corners of the bottom board **14** for supporting the boards **12**, **13** and **14** in an elevated position relatively to a supporting surface on which the legs **20** rest. However, if desired, the legs **20** may be omitted and the bottom board **14** may be rested directly on a table top or other suitable supporting surface of a proper level.

The upper surface of the board **12**, constituting the playing surface, is suitably painted and marked to realistically simulate the game being imitated and which is herein illustrated and described as the game of hockey. Said playing surface **12** adjacent each end thereof is provided with an upstanding substantially semicircular member **21** which opens toward the center of the playing surface and which is disposed intermediate of its side edges and which simulates the cage or goal.

As best seen in Figure 8, a bolt or shaft **22** has an intermediate portion journalled in an opening **23** of the upper board **12**, one of said bolts being disposed adjacent each end of the board **12** and within the cage **21** at said end. A block **24** is keyed adjacent one end thereof to the upper portion of each bolt **22** and extends therefrom outwardly with respect to the adjacent cage **21** and is provided with an enlarged convexly arced outer end **25** which extends forwardly from the open side of the cage. A lever **26** has one end keyed to each bolt **22** beneath the board **12** and between washers **27** which are mounted on said bolt. The parts **24**, **26** and **27** are detachably retained assembled on each bolt **22** by a nut **28** which threadedly engages a restricted lower end thereof. The levers **26** are preferably disposed in longitudinal alignment with the blocks **24** but project in the opposite direction thereto and extend outwardly from the ends of the upper space **15**, in which said levers are disposed, as best illustrated in Figure 2.

The game apparatus **10** preferably includes four player simulating units, each designated generally **29**, and each including a base **30** and a figure **31** which is fixed to and rises from the base **30**. The figure **31** is constructed to simulate a hockey player holding a hockey stick in a playing position and said figure **31** is arranged to face the front of the base **30** which is provided with a recess **32** which flares outwardly. The underside of the base **30** is provided with a plurality, preferably three ball bearings **33** which are recessed in depressions **34** thereof, as seen in Figure 6, and which may be retained therein in any suitable manner, as by means of the retaining plates **35** which are detachably secured to the underside of the base **30** by fastenings **36** and each of which is provided with an opening **37** of a diameter slightly less than the diameter of the ball bearings **33** to detachably retain the ball bearing rotatably in engagement therewith and with its depression **34**. Thus, each player simulating unit **29** is mounted by the ball bearings **33** thereof to roll on the upper surface of the playing surface **12** and said ball bearings are preferably arranged in substantially a triangle including preferably two front ball bearings and one rear

ball bearing. A permanent magnet 38, having a north pole at one end thereof and a south pole at its opposite end is mounted in the underside of the base 30 and is suitably secured in a recessed position therein between the front and rear ball bearings 33. The magnet 38 preferably depends slightly below the underside of the base 30 but has its underside terminating above the level of the bottom portions of the ball bearings 33, as best illustrated in Figure 6. Accordingly, the magnet 38 of each "player" 29 is disposed crosswise thereof. The base 30 and figure 31 may be formed of any suitable relatively light nonmagnetic material such as plastic or clay, of a size to be properly proportioned to the playing surface 12. The ball bearings 33 may be formed of glass or other suitable nonmagnetic material. If desired, the magnets 38 may be omitted and the base 30 may be formed of a magnetized plastic with one side edge magnetized as a north pole and the other side as a south pole.

A ball or sphere 39 formed of glass, clay or other lightweight nonmagnetic material rolls on the playing surface 12 and simulates the puck used in the game of hockey. The ball 39 is of a size to fit into the recess 32. If desired, the ball 39 may be formed of a material such as steel capable of being attracted by a magnet and may be employed, as will hereinafter be apparent, without the player simulating units 29.

The apparatus 10 also includes four corresponding manipulating devices, each designated generally 40, each of which includes an elongated handle 41 of a length only slightly less than the length of the playing surface 12. Each handle 41 has an enlarged grip portion 42 at one end thereof and is provided with a flattened apertured portion or eye 43, at its opposite end, which is adapted to fit into an elongated recess or opening 44 formed intermediate of the ends of a bar magnet 45 and between opposite top and bottom sides thereof. A suitable pivot element or pin 46 is anchored in the intermediate portion of the magnet 45 and extends through the recess 44 thereof and loosely through the eye 43 for swingably mounting the magnet 45 on the last mentioned handle end. One end of the magnet 45 constitutes the north pole thereof and the other end constitutes the south pole of the magnet. The magnet 45 adjacent its ends is provided with eyes or loops 47 which project from the inner side thereof and in the same direction as the handle 41. A flexible element 48 extends from each eye or loop 47 toward the grip portion 42 and as clearly illustrated in Figure 3, the handle 41 of each manipulating device 40 is disposed between the two flexible elements 48 thereof. The flexible elements 48 are provided at their opposite ends with finger receiving loops 49 which are located adjacent the grip portion 42. If desired, rigid rods or the like can be substituted for the flexible members 48 and in which case one of said members 48 can be omitted, as will hereinafter become apparent or the two rigid members 48 could be utilized with the handle 41 omitted.

The supporting structure 11 may be formed of any suitable nonmagnetic material such as masonite, wood, cardboard or aluminum. In playing the game, the four player simulating units 29 and the "puck" 39 are placed on the playing surface 12. Two of the manipulating devices 40 are inserted into the upper space 15 from one end of the supporting structure 11 with the magnets 45 disposed in said space and the grip portion 42 disposed beyond said end of the supporting structure. The other manipulating devices are similarly inserted into the bottom space 19 from the opposite end thereof. The magnets of the manipulating devices 40 which are located in the bottom space 16 must be considerably stronger than the magnets 45 located in the space 15 so that the bottom pair of magnets will as effectively attract the magnets 38 of the "player" units 29 as the magnets of the manipulating devices 40 contained in the upper space 15. Said magnets 38 are considerably weaker than the magnets 45 located in the space 15. If the game is to be played by four contestants, two of the contestants playing as partners position themselves at each end of the supporting structure and with one contestant manipulating one of the devices 40 which extends therefrom and the other contestant manipulating the other of such devices. One of the said contestants may also manipulate the lever 26 when required, as will hereinafter be described. If the game is played by only two players, each player manipulates the two devices 40 which extend from the end of the supporting structure adjacent to which he stands. In grasping and operating the manipulating devices 40, the loops 49 are engaged one in the index finger and one in the middle finger and the other two fingers and thumb are employed to grasp the handgrip 42. Each manipulating device 40 is employed to manipulate one of the player simulating units 29 beneath which the magnet 45 thereof is disposed and so that said magnet 45 will attract the magnet 38 of said unit 29 to cause said unit 29 to roll longitudinally and transversely of the playing surface 12 as the magnet 45 to which it is attracted is moved beneath the playing surface 12. Likewise, by pulling on one or the other of the loops 49 with the fingers, the magnet 45 will be caused to swing about its pivot 46 and which will cause the "player" 29 to turn upon the playing surface 12. In this manner the "players" may be readily manipulated to cause the "puck" 39 to be engaged in the recess 32 of one of said "players" and so that the puck or ball may then be moved toward the goal 21 of the other player. Since the manipulating devices 40 are disposed in the different spaces 15 and 16, the magnets 45 controlled by one player may be moved back and forth and across above or below the magnets 45 of the other player thus enabling the player simulating units 29 to be manipulated at will and enabling the defending contestant to strike the unit 29 of his opponent in the recess 32 of which the sphere 39 is held for dislodging the sphere therefrom to thereby capture the "puck." Either contestant, if his goal 21 is being threatened, may release one of the manipulating devices 40 and utilize one hand for operating the lever 26 to move his block or "goal keeper" into a position to prevent his opponent from propelling the "puck" 39 into his cage or goal 21.

Various rules may be provided for the play of the game including the start of play. Likewise, various other modifications and changes in the construction and arrangement of the parts constituting the invention as herein disclosed are contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. In a game apparatus, a supporting structure having a top part defining a playing surface, a plurality of player simulating units mounted for movement over said playing surface and each including a base portion capable of being magnetically attracted and each having a recessed portion in a part thereof, a playing piece mounted for movement on said playing surface capable of being engaged in the recess portion of each of said player simulating units for movement therewith over the playing surface, a plurality of manually operated manipulating devices each including a magnet, means forming a part of the supporting structure slidably and turnably supporting the manipulating devices beneath said top part in positions whereby the magnetically attractable base portions are connected by magnetic attraction to the magnets of the manipulating devices so that said player simulating units are selectively movable on the playing surface by movement of said manipulating devices.

2. A game apparatus as in claim 1, said playing surface having members mounted adjacent the ends thereof and opening toward one another forming "goals" or "cages" for receiving the playing piece, blocks swingably supported above the playing surface in the openings of said "goals," shafts extending through and journalled in the playing surface and having upper ends fixed to the

blocks, and manually actuated lever means disposed beneath the playing surface and connected to said shafts for manipulating the blocks to obstruct the movement of the playing piece into the "goals."

3. A game apparatus as in claim 1, each of said manipulating devices including an elongated handle having one end pivotally connected to the magnet of said manipulating device for swinging movement of the magnet relatively to the handle, and manually operated means for rocking the magnets on said handle ends, from points remote thereto for causing the player simulating units, magnetically attracted to said magnets, to turn on the playing surface.

4. A game apparatus as in claim 3, said manually operated means comprising at least one link element pivotally connected to and extending from each magnet adjacent an end thereof and having finger engaging means disposed adjacent an opposite grip end of the handle adapted to be engaged by a finger of the hand grasping said grip end whereby the magnet may be moved with the handle and swung relatively thereto.

5. A game apparatus as in claim 1, and a plurality of ball bearing elements journalled in and depending from the underside of each of said player simulating units and engaging said playing surface to provide a rolling support on the playing surface for the player simulating unit of which it forms a part.

6. A game apparatus as in claim 1, said means forming a part of said supporting structure including a bottom and an intermediate partition disposed between said bottom and the playing surface and spaced therefrom to provide an upper space and a lower space, said spaces extending from end-to-end of the playing surface and each having at least one open end, and said manipulating devices being insertable into said spaces and being movably supported therein on the bottom and intermediate partition for manipulation of the player simulating units, at least one manipulating device being disposed in each of said spaces and the manipulating device located in the upper space extending from an end of the supporting structure opposite the end thereof from which projects the manipulating device of the other space.

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