Sept. 11, 1934. A. N. ALBERA 1,973,424

BALL GAME

Filed May 12, 1931 4 Sheets-Sheet 1

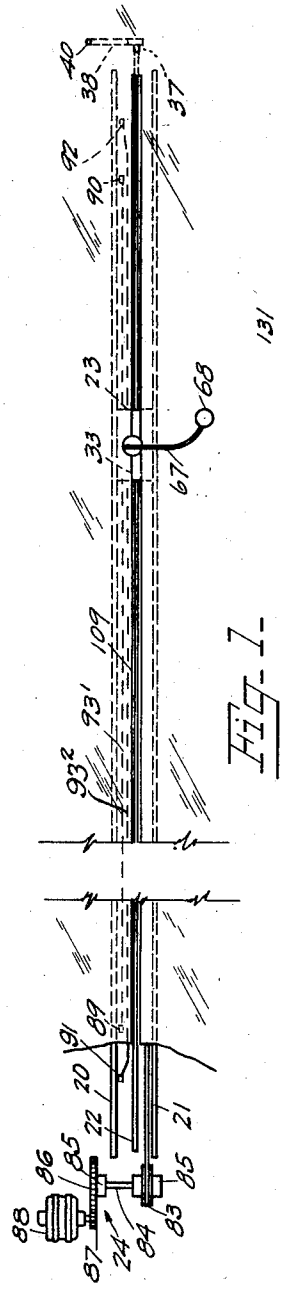


Fig. 1.

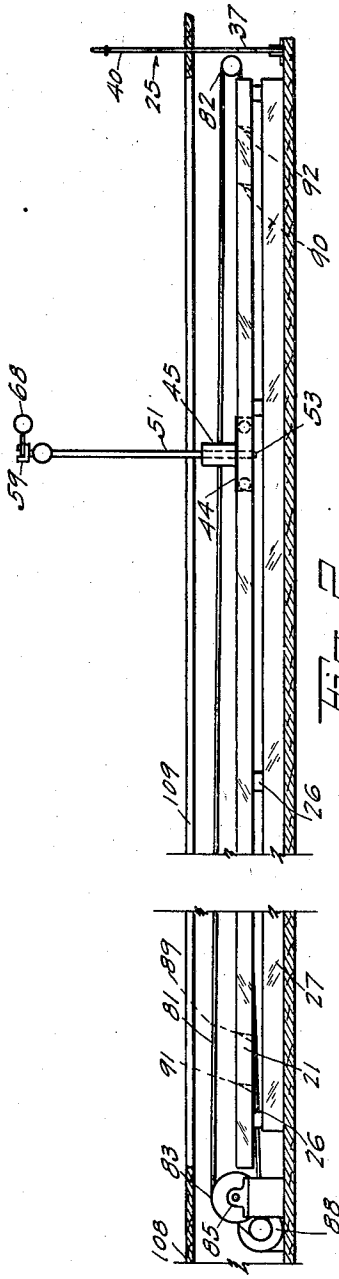


Fig. 2.

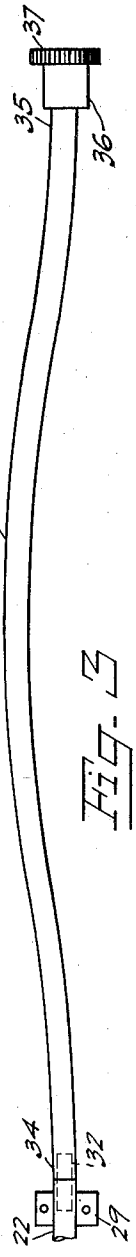


Fig. 3.

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BALL GAME

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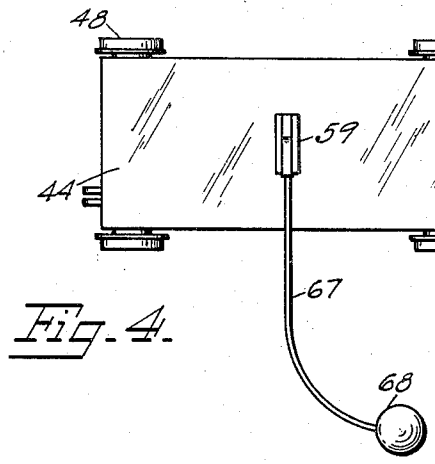


Fig. 4.

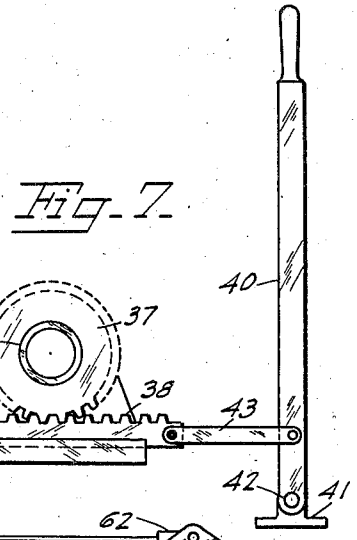
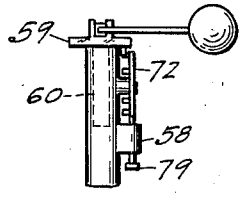
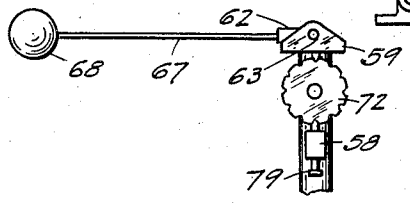


Fig. 7.





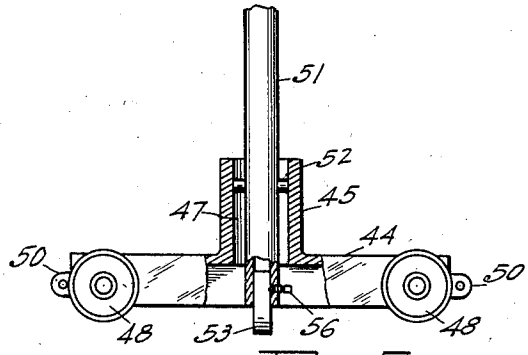


Fig. 5.

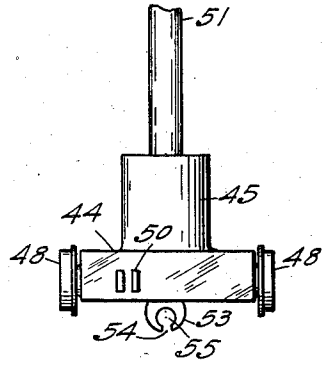


Fig. 6.

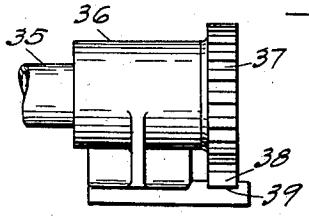


Fig. 8.

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BALL GAME

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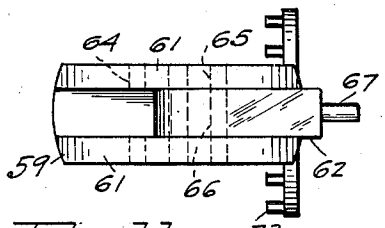


Fig. 11.

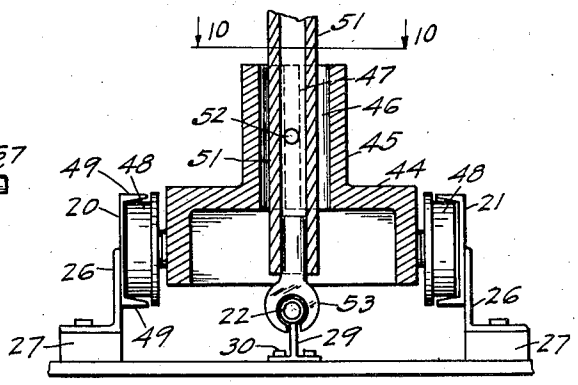


Fig. 9.

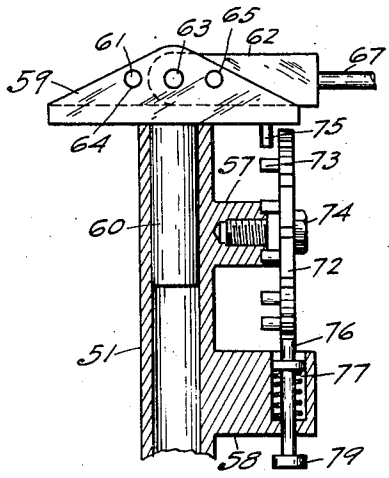


Fig. 12.

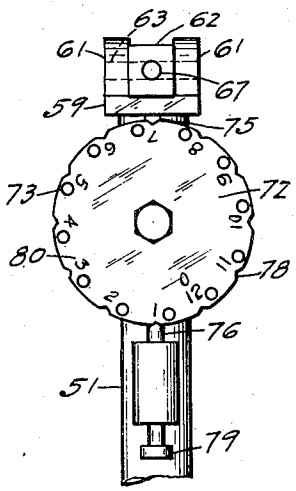


Fig. 13.

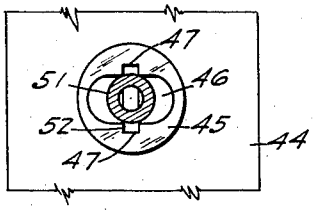


Fig. 10.

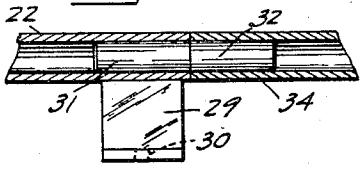


Fig. 14.

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BALL GAME

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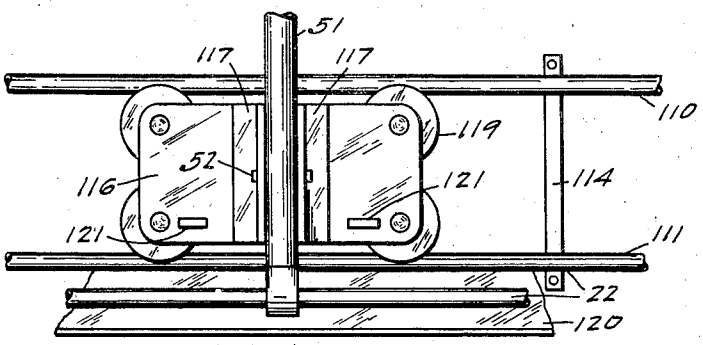


Fig. 16.

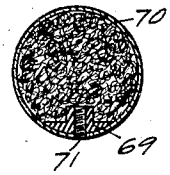


Fig. 17.

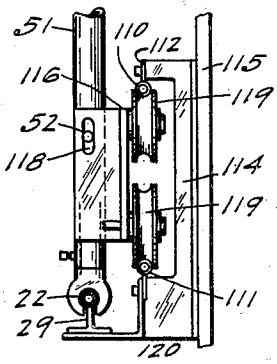


Fig. 15.

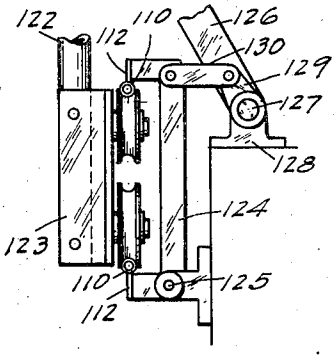


Fig. 19.

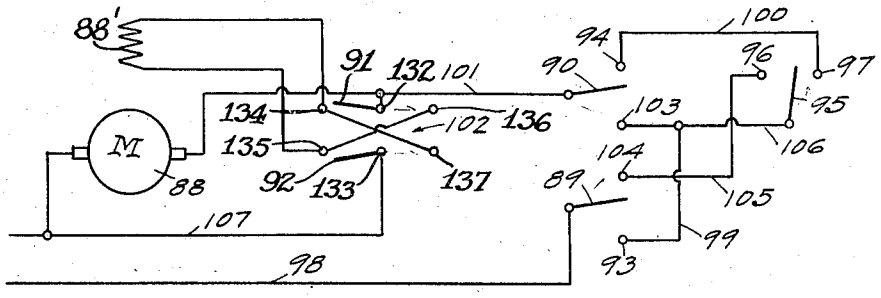


Fig. 18.

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Patented Sept. 11, 1934

1,973,424

UNITED STATES PATENT OFFICE

1,973,424

BALL GAME

Angelo N. Albera, Concord, Calif.; Pietro Albera and Theresa Albera, owners by decree of court, assignors to Robert J. Albera, Concord, Calif.

Application May 12, 1931, Serial No. 536,747

14 Claims. (Cl. 273—26)

This invention is a ball game, and has special reference to base ball in which a mechanically driven ball is carried past a batter at a speed approximating the normal speed of a pitched ball, and being adjustable as to contour of travel whereby in and out-curves, drops and other ruses of the professional pitcher may be resorted to.

The objects of the invention are:

First: to provide a game of baseball with mechanical means for driving or pitching the ball at a speed substantially equal to the normal speed of a hand pitched ball and in a plane which is considered a fair ball in the standard game of baseball.

Second: to provide a game as outlined which may be played indoors or outdoors and which will test the skill of the batter and develop accuracy in batting.

Third: to provide means for controlling the path of travel of the ball whereby various curves, drops and other ruses may be resorted to, whereby each ball may be differently controlled, the operator changing from one ruse to another without the knowledge of the batter.

Fourth: to provide means for registering the comparative force of impact of the bat with the ball, the means being quickly and conveniently reset to zero.

Fifth: to provide a carrying arm for the ball which is instantly adjustable for right hand or left hand batters, the arm being of resilient material such as spring steel or rubber covered spring wires, sufficient rigidity being provided to cause the head to whirl with the arm for the purpose of providing a comparative registration of the force of impact, the revolutions of the head being registered on any type of revolution counter.

Sixth: to provide means for delivering, and automatically stopping the ball after passing the home plate and manually controlled for starting and returning the ball.

Other objects and advantages of the invention will become apparent as the following description is read on the drawings forming a part of this specification and in which similar reference characters are used to indicate similar parts throughout the several views, and in which:

Fig. 1 is a plan view of the invention;

Fig. 2 is a longitudinal elevation of Fig. 1;

Fig. 3 is a longitudinal view of the ruse developing portion of the arm guiding track;

Fig. 4 is a top plan view of the arm carrier;

Fig. 5 is a side elevation of Fig. 4 partly shown in section to clearly illustrate the sliding pivot of the arm standard;

Fig. 6 is an end elevation of the carrier, ball arm and registering device;

Fig. 7 is an end elevation of the arm guiding track and controlling means;

Fig. 8 is a side elevation of the controlling pinion and rack and bearing for the arm guiding track;

Fig. 9 is a transverse section through the carrier and tracks on an enlarged scale;

Fig. 10 is a section taken on line 10—10 of Fig. 9;

Fig. 11 is a top plan view of the head and showing the hinged portion of the arm;

Fig. 12 is an end elevation of Fig. 11 showing the registering device;

Fig. 13 is a side elevation of Fig. 12;

Fig. 14 is a detail view showing the pivotal connection between the straight and curved portions of the arm guiding track;

Fig. 15 is an end elevation showing a modification of the invention;

Fig. 16 is a front elevation of the modification shown in Fig. 15;

Fig. 17 is a sectional view of the ball used on the arm;

Fig. 18 is a wiring diagram of the motor circuit; and

Fig. 19 is another modification of Fig. 15 in which the track is adjustable, and the standard fixed.

The invention consists of a track for the carrier consisting of rails 20 and 21, an arm guiding track 22, a carrier 23, driving means 24 for the carrier, controlling means 25 for the arm guiding track 22, and controlling means for the driving means.

The track consists of a pair of rails 20 and 21, consisting of channel sections mounted by means of angle chairs 26 on sleepers 27, with flanges 49 turned toward each other.

The straight portion of the arm guiding track consists of a pipe or other cylindrical section 22 disposed between the rails 20 and 21 and having brackets 29 fixed thereto, the brackets being bolted through the foot to a base or floor, as shown at 30. A pivot pin 31 is fixedly secured in one end of pipe 22 and has a projecting portion 32 adapted to rotatably receive one end of the ruse developing section of the track which consists of a similar section of material to that used for straight portion 22, but is intermediately curved as at 33, the curve continuing into straight ends 34 and 35 by reverse curves as shown. The

other end of section 33 is rotatably mounted in a bearing 36 and has a pinion 37 fixedly mounted at the end.

The controlling device consists of the pinion 37 and a cooperating rack 38 which is slidable in a guideway 39 formed in the base of bearing 36. A hand lever 40 is pivoted in a bracket 41 at 42 and has a pivoted link connection 43 to the rack 38.

The carrier consists of a body portion 44 having an upwardly extending hub 45 in which is formed an elongated aperture 46 with oppositely disposed keyways 47. Pivotally mounted on the carrier are four wheels 48 having flanges, the wheels freely fitting between the track flanges 49. Attaching means 50 for a rope or cable are supplied at both ends of the carrier.

The carrier standard consists of a tubular section 51 having a transverse pivot 52 which is slidable in the keyways 47, the standard being enabled thereby to move up and down and to swing about the pivot 52. Secured to the lower end of the standard is a shoe 53 which has only sufficient opening 54 at the lower end to clear the brackets 29, the opening 55 slidably receiving the track 22. Suitable means, such as a set screw 56 is provided to removably secure the shoe 53 in place. The upper end of the standard has a boss 57 and a bracket 58 suitably secured thereon as by welding.

The head 59 has an integral pivot 60 which is rotatable within the tubular standard 51, and also has a pair of upwardly projecting ears 61 in which is pivotally mounted the arm end 62 as indicated at 63. Apertures 64 and 65 are equally spaced from the pivot 63 and register selectively with an aperture 66 in the arm end 62. Fixedly secured in arm end 62 is an arm 67 of resilient material, such as spring steel or a plurality of spring steel wires covered with flexible material of sufficient rigidity to transmit most of the force for pivotal action about the pivot 60. Secured to the outer end of the arm is a regulation baseball 68 which is clearly shown in Fig. 17 in which a metal element 69 is imbedded under the cover 70, and which is provided with a threaded aperture 71 for securing the ball to the end of arm 67.

The registering device may be of any standard make of revolution counter, a simple device being shown in the drawings, in which a disk 72 is provided with a plurality of equally spaced projecting pins 73 and pivoted to boss 57 as shown at 74. A downwardly projecting pin 75 on head 59 cooperates with pins 73, intermittently rotating dial 72. A pawl 76 is urged by a spring 77 into V shaped recesses 78 on dial 72 and has a knob 79 for release of the dial for resetting. Numerals 80 provide for direct reading, the pawl 76 coincidently comprising an indicator.

The driving means may be of any type, such as the impact or catapult set forth in my copending application, Serial No. 500,214, filed Dec. 5, 1930, or may be driven by an electric motor through a cable as shown in the drawings, in which a rope or cable 81 has its opposite ends attached to ears 50 at the respective ends of carrier 23 on body 44, the cable or rope passing over sheaves 82 and 83 at the respective ends of the course.

Sheave 82 is an idler while sheave 83 is fixedly secured on a shaft 84 which is suitably mounted in bearings 85. A gear 86 is mounted at one end of shaft 84 and meshes with a drive pinion 87 on motor 88.

A suitable wiring diagram is provided in Fig. 18 providing for cutting off the current adjacent each end of the course and for reversing the motor, as also for manual control. Trip fingers 89 and 90 are adapted to be engaged by the carrier 44 in respective directions of travel, and are connected by means of a suitable rod or cable 93^1 whereby they are coincidently reversed. Similarly fingers 91 and 92 are connected together by another rod or cable 93^2 and are actuated in opposite directions directly by the carrier. Fingers 89 and 90 are circuit breaking and changing devices and may constitute the switch levers of two three-point switches, while levers 91 and 92 are suitably connected to a reversing switch for reversing the direction of rotation of the motor 88 at opposite terminals of travel.

The operation of the device is as follows:

Referring to Figs. 1, 2 and 18, it will be assumed that the carrier 44 is located to the right of levers 89 and 91. Moving the carrier to the left throws levers 89 and 91 to the left, and coincidently levers 90 and 92 through the connections 93^1 and 93^2. This movement causes switch 89 to contact with 93 and switch 90 to contact with 94, and levers 91 and 92 throw the reversing switch 102 to bridge the terminals 132—134 and 133—135.

The device is now ready for operation. The three point hand operated switch 95 is closed to contact 97 completing the circuit from power line 98, through 89 to 93, wire 99, wire 106, switch 95 to contact 97, wire 100, contact 94, lever 90, wire 101 to 132 and to motor 88, to power line 107 and to reversing switch terminal 133 to motor field winding 88^1, thence to terminal 134.

The motor then drives the carrier to the right and the tripped levers 89 and 91 are out of cooperative relation, while levers 90 and 92 have been swung into cooperative relation to the carrier. The carrier travels to the right, first engaging lever 90 which breaks the circuit from 90 to 94 and from 89 to 93 and moves lever 90 to contact 103 and lever 89 to contact 104.

Lever 95 contacts with 97, and the circuit is open between 95 and 96. The carrier next moves lever 92 to the left, throwing the reversing switch 102 to contacts 136 and 137, reversing the motor field circuit 88^1. Closing the switch 95 to contact 96 again completes the circuit, the reversed field winding circuit causing the motor to return the carrier to the starting point, breaking the circuit and reversing the switch as previously explained for starting.

All mechanism is mounted beneath the floor 108, only the standard 51 and arm 67 and associated parts extending above the floor, a slot 109 being formed throughout the length of travel of the carrier.

A modification of the invention is shown in Figs. 15 and 16, in which the carrier track is vertically disposed, using pipes 110 and 111 for rails, the pipes having stems 112 extending from the top and bottom which are secured to brackets 114, being suitably secured to a wall 115.

The carrier consists of a flat plate 116 to which angles 117 are secured to provide a bracket for the standard 51 which is of similar construction throughout to the one previously described, a slot 118 being provided in the bracket instead of the keyway. Sheaves 119 are pivotally mounted on the back of the plate, and the pipe 22 is supported on a bracket 120. Ears 121 provide for attachment of the cable.

A further modification is shown in Fig. 19, in which the standard 122 is fixedly secured in the

bracket 123, the track 22 is dispensed with, and the bracket 124 is pivotally mounted at 125, the upper end of the bracket being controlled by a lever 126 which is fixedly secured on a shaft 127, the shaft being rotatably mounted in bearings 128 and having levers 129 connected by means of links 130 to the upper end of the bracket 124. Manipulating lever 126 swings the portion of the track to which it is connected, forming a curve which causes the ball to describe an in or out-curve. The main portion of the track would be fixedly mounted with only an intermediate portion mounted in the pivoted brackets.

The operation of the device is as follows: The batter stands in a position indicated at 131 with the carrier at the left hand end of the track. Switch 95 is closed, starting the motor which drives the carrier at high speed past the batter who strikes at the ball with a bat. If the bat strikes the ball 68 it is caused to whirl about the pivot 60, registering the number of revolutions on the dial 72. As the carrier engages lever 90, the circuit is broken and the carrier comes to a stop, after engaging lever 92 and reversing the motor. The arm is reset to the position shown in Fig. 1 and switch 90 is thrown to the other contact which returns the carrier, tripping fingers 89 and 91 and respectively breaking the circuit and reversing the motor.

Lever 40 is then changed to a different position, which changes the course of travel of the ball for the next pitch. According to the position of lever 40 any curve can be obtained, in or out, drop, or any intermediate, the ball dropping, raising or swinging in or out during its travel along the curved portion of the track.

Having described an operative method of constructing and using the device it will be understood that variations in construction and arrangement of parts which are consistent with the appended claims may be resorted to without detracting from the spirit or scope of the invention or sacrificing any of the advantages thereof.

I claim:—

1. A baseball game, in combination, a carrier, an arm mounted on said carrier for rotation in a horizontal plane, said arm terminating in a ball means for driving said carrier in alternate directions, and means for controlling the course of travel of said ball.

2. In combination with a baseball carrying device, a standard cooperating with a track and pivotally and slidably mounted in said device, a portion of said track being curved, and means for rotatably adjusting said curved portion.

3. A baseball carrier, guiding means therefor, driving means for said carrier, a standard reciprocally and swingably mounted in said carrier, an arm rotatably mounted at the top of said standard, a shoe at the bottom of said standard, a track cooperating with said shoe, a portion of said track being curved, and means for rotatably adjusting said curved portion.

4. A baseball carrier comprising a carriage, tracks for said carriage, means for driving said carriage, a standard swingably and slidably mounted on said carriage, a shoe on said standard, a track for guiding said shoe, said track having a curved portion, and means rotatably adjusting said curved portion.

5. A baseball carrier comprising a carriage, guiding means for said carriage, a standard mounted for vertical and swinging movements on said carriage, an arm on said standard and means for reciprocating and swinging said standard during the travel of said carriage.

6. In a baseball simulating game, a carrier, an arm rotatably mounted on said carrier, a ball on said arm, means for driving said carrier, and means for controlling the approximate course of travel of said ball.

7. In combination with a baseball carrier and driving means therefor and an arm connected to the carrier having a ball secured to the end thereof; and adjustable means for changing the path of travel of said ball from a direct or straight course.

8. In combination with a baseball projecting device and a baseball mounted at the end of an arm; adjustable means adapted to cause said ball to describe curves projecting from a direct course during travel thereof.

9. In combination with a baseball carrying device, a standard cooperating with a track and swingably and slidably mounted in said device, an arm rotatably mounted at the top of said standard, a ball secured to the end of the arm, a portion of said track having a curve with axially aligned ends rotatably mounted, and means for rotatably adjusting said portion.

10. A baseball game, in combination, a carrier, a resilient arm rotatably mounted on said carrier and adjustable for right hand and left hand batting, a ball secured to the end of said arm, means for driving said carrier, and adjustably controlled means for causing said ball to divert from a direct or straight course.

11. A baseball game, in combination, a carrier, guiding means for said carrier, electrically actuated driving means for said carrier, a resilient arm rotatably mounted on said carrier, a ball secured to the end of said arm, adjustably controlled means for directing said ball out of a straight course during a portion of its travel, and switch devices for interrupting and reversing said driving means adjacent the opposite limits of travel, said devices being actuated by said carrier.

12. A baseball game, in combination, a carrier, a resilient arm rotatably mounted in a horizontal plane on said carrier and adjustable for right hand and left hand batting, means for driving said carrier in alternate directions, interrupting means for said driving means actuated by said carrier, reversing means actuated by said carrier, and means for controlling the course of travel of said ball.

13. A baseball carrier, guiding means therefor, reversible driving means therefor and controlled thereby, a standard reciprocably and swingably mounted in said carrier and projecting upwardly therefrom, a resilient arm rotatably mounted at the top of said standard, a shoe at the bottom of said standard, a track cooperating with said shoe, a portion of said track being curved with axially aligned ends rotatably mounted, and means for rotatably adjusting said curved portion.

14. A baseball carrier comprising a carriage, tracks for said carriage, reversible driving means for said carriage and controlled thereby, a standard swingably and slidably mounted on said carriage, a shoe at the lower end of said standard, a track for guiding said shoe and having a rotatably mounted curved portion, means for rotatably adjusting said curved portion, a resilient arm at the top of said standard and swingable about said standard, and a ball secured to the outer end of said arm.

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