Nov. 9, 1937. V. F. SLEZAK 2,098,406

GAME APPARATUS

Filed May 15, 1935 2 Sheets-Sheet 1

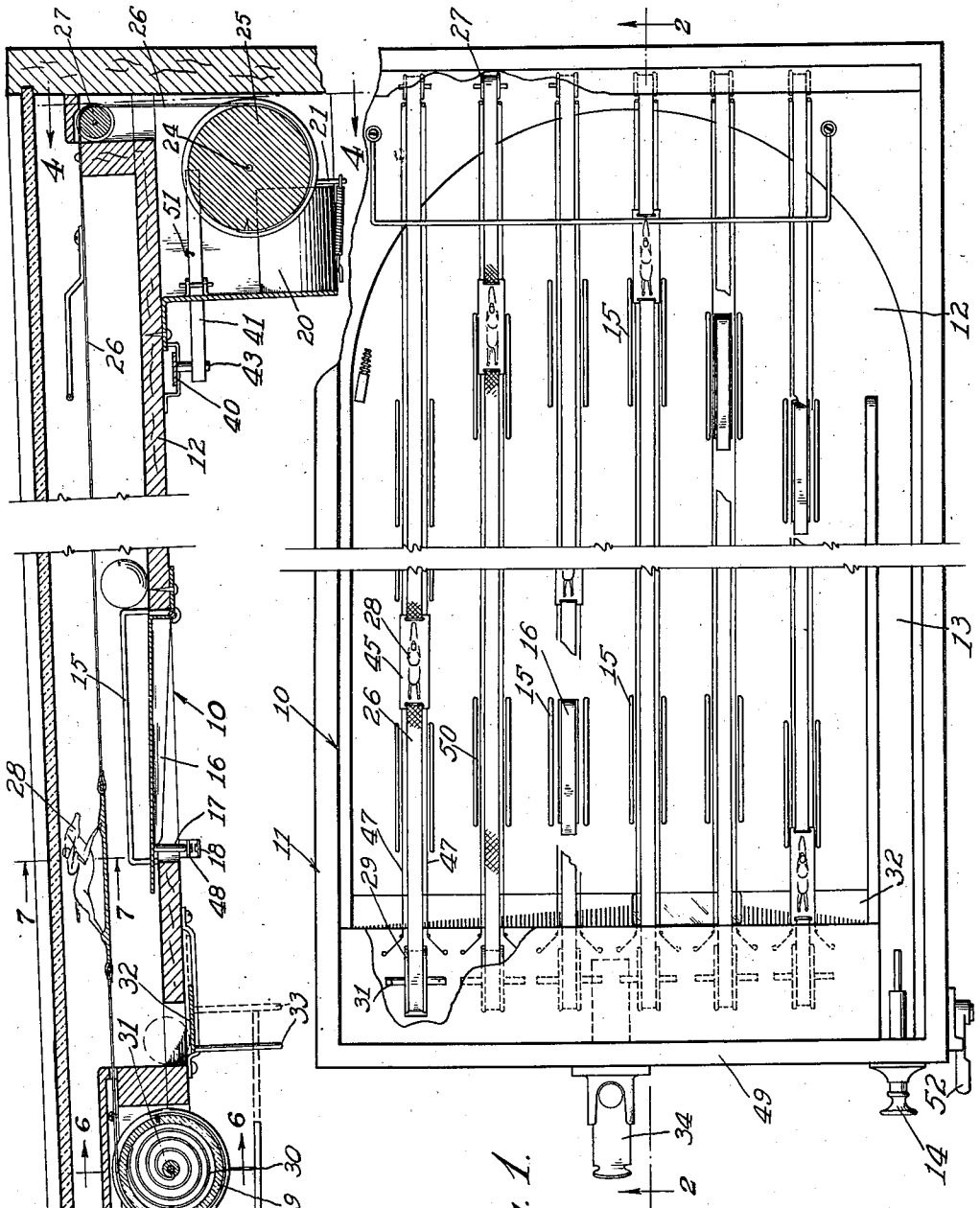


Fig. 1.

Fig. 2.

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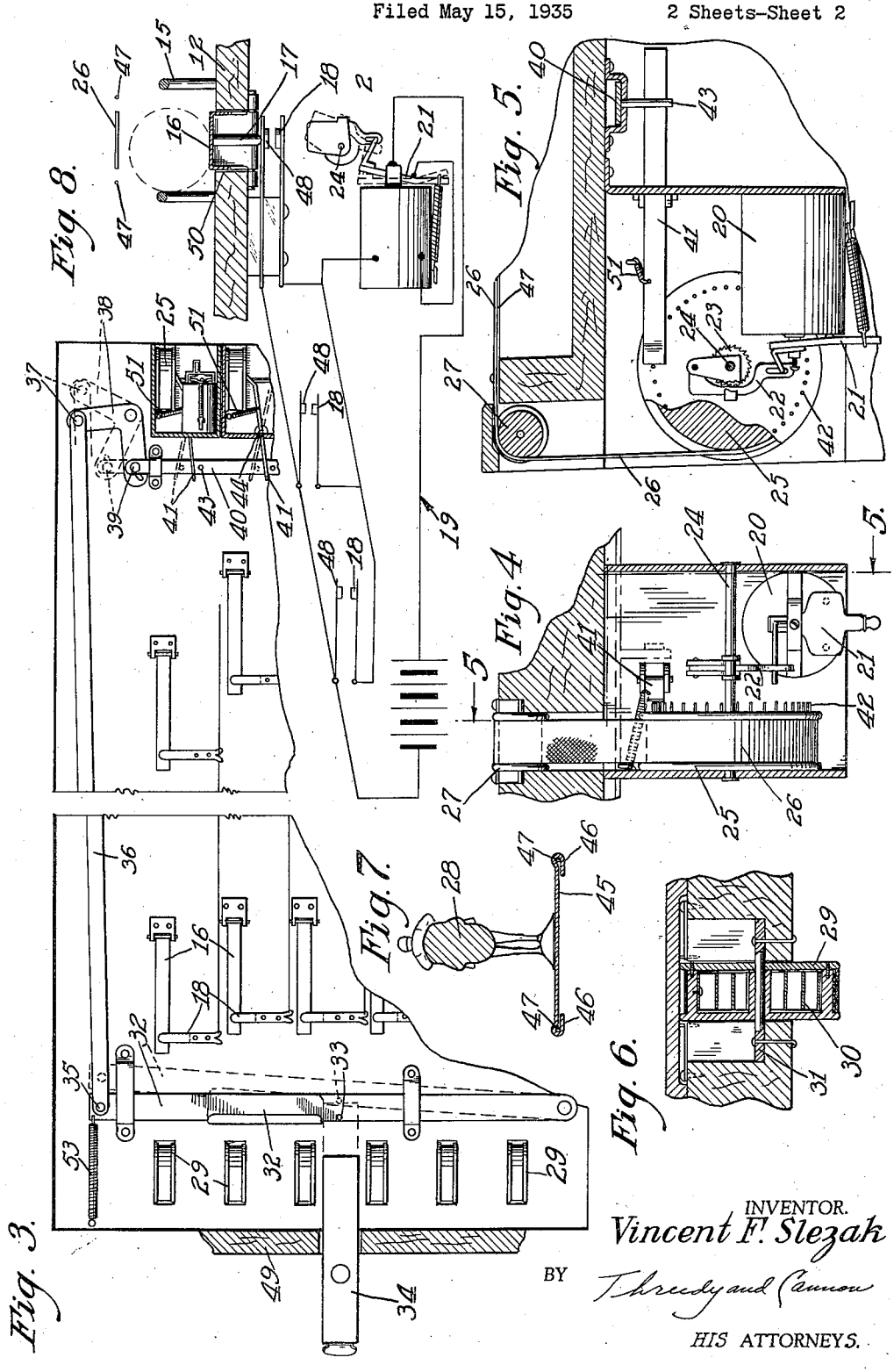


Fig. 3.

Fig. 8.

Fig. 5.

Fig. 4.

Fig. 7.

Fig. 6.

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GAME APPARATUS

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5 Claims. (Cl. 273—121)

This invention relates to a game apparatus.

It is an object of this invention to provide an improved game apparatus which is relatively simple and inexpensive in construction and efficient in use.

Another object of the present invention is to provide an amusement game apparatus of the so-called pin and marble game type embodying novel ball-actuated devices for effecting competitive movement between racing characters which are movably mounted in the cabinet of the apparatus.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings, showing the preferred form of construction and in which:

Fig. 1 is a top plan view of an amusement game apparatus embodied in a preferred form of the new apparatus;

Fig. 2 is a longitudinal sectional view on line 2—2 in Fig. 1;

Fig. 3 is a fragmentary bottom plan view of the cabinet of a game apparatus embodying a preferred form of the present invention;

Fig. 4 is a sectional view on line 4—4 in Fig. 2;

Fig. 5 is a sectional view on line 5—5 in Fig. 4;

Fig. 6 is a sectional view on line 6—6 in Fig. 2;

Fig. 7 is a sectional view on line 7—7 in Fig. 2.

Fig. 8 is a lateral section of a ball switch showing also circuit connections therefor.

A preferred form of the new game apparatus is shown in the drawings, is therein generally indicated at 10, and comprises a cabinet 11 which includes an inclined playing board 12.

Arranged in the cabinet 11 at one side of the inclined playing board 12 is a ramp or ball runway 13 and arranged at the lower end of this ramp or runway 13 is a player or propelling device 14 by means of which balls may be propelled, one at a time, onto the upper portion of the inclined playing board 12.

Arranged upon the inclined playing board 12, at spaced intervals thereon, are ball runways 50 which are defined by spaced rails 15, these rails 15 being raised above the inclined playing board 12 (Fig. 2).

The bottom of each runway 50 is defined by a member 16 which is pivotally mounted on the inclined playing board 12, and each of these members 16 carries a depending pin 17 and each of these pins 17 is adapted to engage a relatively movable contact 48, (Figs. 2 and 8), and each of the contacts 48 is adapted to engage a relatively movable contact 18.

A preselected number of pairs of these contacts 48—18 are embodied in an electromagnetic circuit 19 (Fig. 8), and each of these circuits 19 includes an electromagnet 20. Associated with each of these electromagnets 20 is a pivotal make and break contact member 21 and each of these contact members 21 is pivotally connected to an operating pawl 22 (Fig. 5), each of these pawls 22 being engageable with a ratchet 23, these ratchets 23 being mounted upon shafts 24.

Mounted upon each of the shafts 24 is a take-up roll or reel 25 and having an end portion attached to each of these take-up rolls 25 is a flexible element or ribbon 26; these flexible elements 26 working around guide rollers 27 which are mounted in the cabinet 11, (Fig. 2).

Attached to each of the flexible elements or ribbons 26 is a racing character 28, these characters 28 being shown as having the preferred form of a horse. These characters 28 are mounted on the flexible elements 26 between the end of the latter and are guided in a manner presently to be described.

Each of the flexible elements 26 has one end portion attached to a take-up roll or drum 29 and arranged in each of these take-up rolls or drums 29 is a coil spring 30. One end convolution of each of these coil springs 30 is attached to the corresponding take-up roll 29 and the other end convolution of each of the springs 30 is attached to a shaft 31 upon which the take-up roll is mounted (Fig. 2) in the cabinet 11.

Slidably mounted upon the inclined playing board 12 below the same and at the lower edge portion of the latter is a ball-retaining member 32 which has a depending arm 33 and engageable with this arm 33 is a coin slide 34 which is slidably mounted in the lower end wall 49 of the cabinet 11.

Pivotally connected to the ball-retaining member 32, as at 35 (Fig. 3), is a slide bar 36 and pivotally connected to the slide bar 36, as at 37, is a bell crank 38. This bell crank 38 is, in turn, pivotally connected, as at 39, to a slide bar 40 upon which are mounted a series of spaced depending pins 43. Each of these pins 43 is engageable with an end portion of a pivotal latch member 41 and each of these latch members 41 is pivotally mounted between its ends, as at 44, (Fig. 3) in the cabinet 11. One end portion of each of these latch members 41 is engageable with an annular row of pins 42, one of these rows of pins

42 being mounted upon each of the take-up rolls or drums 25.

Each of the racing characters 28 is mounted upon a relatively rigid supporting base 45 and each of these supporting bases 45 has crimped edge portions 46 which are slidably mounted upon spaced guide wires 47 (Fig. 7); it being noted that each of the relatively rigid supporting bases 45 is mounted in, or inserted into, one of the flexible elements or ribbons 26 between the ends of the latter. The guide wires 47 are suitably anchored in the cabinet 11 at their ends (Fig. 1).

Operation

In the use of the new game apparatus balls may be propelled one at a time up the ramp 13 onto the upper portion of the inclined playing board 12, so that they may gravitate over the latter and enter into the runway 15.

When a ball enters one of the runways 15 it bears upon the corresponding pivoted member 16 and forces the pin 17 carried thereby down into engagement with the corresponding contact 48, thereby forcing the contact 48 into engagement with the corresponding contact 18, and thus closing the corresponding electro-magnetic circuit 19. This closing of the circuit 19 actuates the solenoid 20 embodied therein and causes the latter to attract the vibratory or make and break contact 21, associated therewith, thereby actuating the latter and the corresponding pawl 22, thereby rotating the corresponding ratchet 23, shaft 24, and take-up roll 25 in a step by step motion, (clockwise, Fig. 2); it being noted that these devices 20—21—22 are of conventional design and are well known in the art. This movement of the take-up drum or roll 25 winds the corresponding flexible element or ribbon 26 thereabout, thus advancing the racing character 28 carried thereby (left to right, Fig. 2). During this movement the racing characters 28 are guided by the wires 47 (Fig. 7).

As the flexible elements 26, and the racing characters 28 carried thereby, are thus moved (left to right, Fig. 2), the flexible elements or ribbons 26 are unwound from the drums 29, and the flexible elements 26 are latched in extended position, against the action of the resetting springs 30, by the engagement of the latch member 41 with the pins 42 on the take-up drums 25.

The latch members 41 are held in latching engagement with the latch pins 42 by the action of their resetting spring 51 and the latch members 41 are moved out of latching engagement with the pins 42 by operation of the slide bar 40 (from bottom to top as seen in Fig. 3). This movement of the slide bar 40 is effected through the operation of the bell crank 38 and the latter is operated by movement of the slide bar 36, which, in turn, is operated by movement of the ball-releasing member 32 (from full to dotted line position, Fig. 3). This movement of the ball-releasing member 32 is effected by operation of the coin slide 34 and discharges the balls retained thereby, at the lower end of the inclined playing board 12, below the latter for return to a point adjacent the elevating means, indicated at 52.

When a played ball gravitates out of one of the runways 15—16 it may enter another one of the runways 15 (Fig. 1) which is arranged further down the inclined playing board 12, and thereby again close the same electromagnetic circuit 19 (Fig. 8), since the runways 15 are arranged in rows, each row including two or more runways arranged at spaced intervals on the inclined playing board 12, (Fig. 1).

After the balls travel out of the lowermost runways 15 they gravitate to the lower end of the inclined playing board 12 and enter onto the ball-retaining member 32 by which they are temporarily held until the coin slide 34 is operated.

When the coin slide 34 is operated, (left to right, Fig. 2) its inner end engages the pin 33, thereby pivoting the bar 32 (clockwise, from full to dotted line position, Fig. 2) and this movement of the bar 32 releases the balls temporarily held thereby, discharging the same below the inclined playing board 12 for return to the elevating device 52.

At the same time, this movement of the ball-retaining member 32 acts, through the slide bar 36 and bell crank 38, to shift the slide bar 40 (top to bottom, Fig. 2), thereby moving the pins 43, which are carried by the slide bar 40, into engagement with the latch members 41 and thus pivoting the latch members (from full to dotted line position, Fig. 3). This movement of the latch members 41 releases the same from latching engagement with the pins 42 which are mounted on the drums 25, whereupon the tensioned springs 30 act upon the flexible elements 26 and the racing characters 28 carried thereby to reset the latter back into their initial positions (right to left, Fig. 2).

When the coin slide 34 is released for return to its initial position, the spring 53 resets the slide bar 36 and the ball-retaining member or bar 32 back into their initial positions (right to left, Fig. 3), and this movement of the slide bar 36 acts, through the bell crank 38, to move the slide bar 40 (top to bottom, Fig. 3). This movement of the slide bar 40 moves the pins 43 carried thereby away from the latch members 41, whereupon the resetting springs 51 urge the latch members 41 back into latching engagement with the pins 42.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification, without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. In a game apparatus of the projected-ball type including a ball playing surface and a control member, mechanism operable by a projected ball for moving a racing character over the ball playing surface comprising: a pair of reels supported at a distance from each other, a flexible member attached to each of said reels for winding movement from one to the other thereof and having attached thereto a racing character extended for movement above the ball playing surface; electrical means operable by a projected ball for rotating one of said reels to wind said flexible member thereon from the other reel and move said character, and means releasable by said control member and including an energy storing device energized by the aforesaid winding operation or movement and operably associated with said other and last-mentioned reel for rewinding the latter to restore said flexible member and figure to an initial position after

movement by said first-mentioned winding operation.

2. Game apparatus including a manually operable control, an element moved in playing the game, actuating means arranged for operation by said element, a racing character, and means for supporting and moving said character including a pair of reels and a web member arranged to be wound from one to the other of the reels, said web supporting said racing character for movement over the upper surface of said board, electro-magnetic means operable by said actuating means for turning one of said reels to move said web and figure from an initial position, and releasable means including an energy-storing device energized by movement of the web in the manner aforesaid and released by operation of said manually operable control for turning the other one of said reels in a reversed direction to rewind said web and restore the figure to said initial position.

3. Mechanism for game apparatus of the type having a manual control and a ball playing surface, and a figure movable over said surface by a played ball, said mechanism comprising: a pair of reels having a flexible member windable from one to the other thereof, and said figure being carried by said flexible member and extended above said playing surface for movement thereover by winding movement of said flexible member from one to the other of said reels; an electromagnetically driven device for turning one of said reels to wind said flexible member from an initial position, means controlled by a played ball for operating said device; means including a spring tensioned by said winding operaton for reversibly turning the other one of said reels, releasable means normally preventing reverse movement of said reels by said spring, and release means operable by said manual control for releasing said releasable means whereby said flexible member and the figure carried thereby may be restored to said initial position.

4. Game apparatus including a figure simulating a racing object movable over a course, and actuating means constructed to be engaged and operated by an instrumentality used in playing the game for controlling the movement of said figure determined distances by a playing of the game in a predetermined manner, and mechanism for supporting and moving said racing figure and including a pair of spaced reels, a flexible carrying member attached to said reels and windable from one to the other, said racing figure being attached to said carrying member for movement by the latter over said course, power driven means for turning one of said reels to wind said flexible carrying member onto the same from the other reel of said pair, said other reel being provided with spring means energized by the aforesaid turning of said first-mentioned reel, releasable latch means cooperable with said other reel to hold the latter against retrograde movement by said spring means, manually operable means for releasing said latch means, said power driven means being energized by said actuating means.

5. Amusement apparatus including a pair of reels and a flexible element attached to the same and adapted to be wound back and forth thereon responsive to turning of the reels in opposite directions, a manikin mounted on said flexible element for movement therewith, driving mechanism operable to turn a particular one of said reels to wind said flexible element thereon, releasable latching means normally preventing retrograde movement of said particular reel, energy storing means adapted to be energized responsive to the winding movement of said particular reel and adapted when said latch means is released to releasably wind-in said element from said particular reel, together with control means for releasing said latching means, and means for operating said driving mechanism to turn said particular reel to move said flexible element in the manner aforesaid.

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