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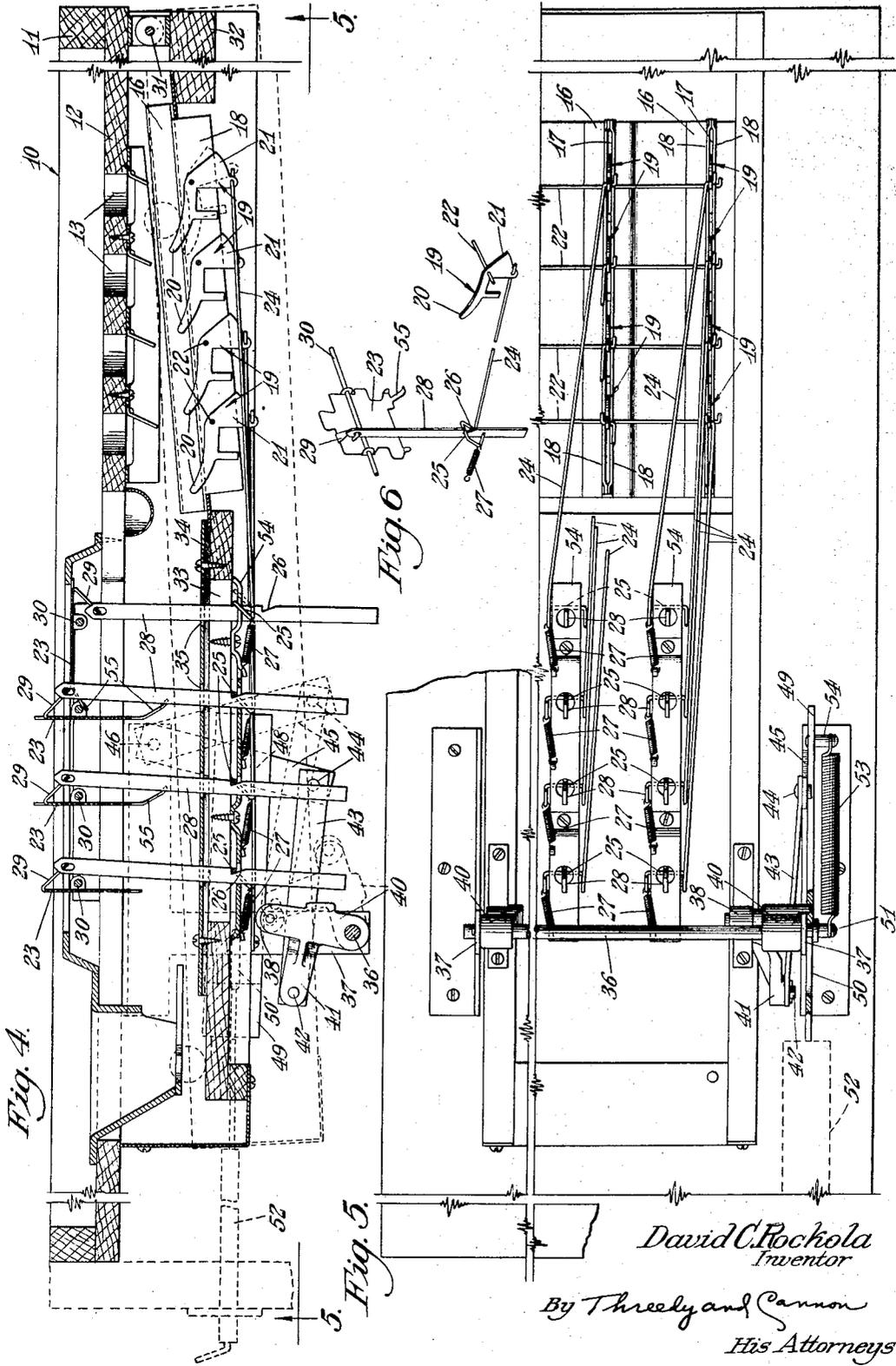
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GAME APPARATUS

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GAME APPARATUS

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14 Claims. (Cl. 273—121)

This invention relates to game apparatuses.

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.

Other objects of the invention are: to provide a new and entertaining amusement game apparatus embodying a novel arrangement of score indicators having the form of a bank of interlocking jig saw puzzle parts; to provide in association with said score indicators or puzzle parts a novel ball-actuated mechanism for effecting movement of said score indicators or puzzle parts into registered, interlocking position; and to provide a novel resetting device for resetting the score indicators or puzzle parts after each operation or play thereof.

A further object of the invention is to provide the novel game apparatus hereinafter described and claimed.

The drawings illustrate a preferred embodiment of the new amusement game apparatus and therein:

Fig. 1 is a top plan view of the aforementioned preferred embodiment of the new game apparatus;

Fig. 2 is a transverse, vertical, sectional view on line 2—2 in Fig. 1;

Fig. 3 is a transverse, vertical, sectional view on line 3—3 in Fig. 1;

Fig. 4 is a longitudinal, vertical, sectional view on line 4—4 in Fig. 1;

Fig. 5 is a bottom plan view on line 5—5 in Fig. 4; and

Fig. 6 is a perspective detail view of a unit embodied in the invention.

The aforementioned preferred embodiment of the new game apparatus is generally indicated at 10 in the drawings and comprises a cabinet 11 which includes a substantially horizontal playing board 12 in which are formed rows of ball exit or scoring openings 13 which may be given any desired preselected scoring values. Extending along one side of the playing board or surface 12 is a ramp or ball runway 14 which opens at one end (Fig. 1) out onto the playing surface of the board 12. Arranged at the other end of the ramp or runway 14 is a ball projecting device in the form of a plunger 15.

Arranged below the playing surface or board 12 is a series of inclined parallel ball-return tracks or runways 16, each of which has communication with a row (N, O, P, Q, or R, Fig. 1) of the ball exit or scoring openings 13. Formed in the bottom wall of each of these ball return

runways 16 is a vertical slot 17, each of these slots 17 being provided by a pair of downturned, parallel flanges 18 which are formed integrally with the runways 16 and depend from the bottom walls of the latter. (Fig. 3.)

Associated with each of the ball runways 16 is a row of trigger members 19. These trigger members 19 are pivotally mounted upon rods 22, and between the depending flanges 18 for movement in the slots 17. Each trigger member 19 has an arm 20 and these arms 20 project up into the corresponding runway or track 16 (Fig. 4). Each trigger member 19 also has a depending arm 21 and these arms 21 project below the runways 16 and flanges 18 for reasons to be made apparent presently.

When a playing ball is projected up the ramp 14, by the ball projecting device 15, it enters upon the playing surface 12 and, depending upon the skill of the operator, may enter any one of the ball exit or scoring openings 13, from which it will gravitate into the corresponding ball return runway 16 for return (by means not shown) to the ball projecting device 15. As the ball travels down the runway 16 it engages one or more of the arms 20 of the trigger members 19, depending upon which row, A, B, C or D of scoring holes 13 the ball enters (Fig. 1), and in so doing the ball pivots one or more trigger members 19 (counterclockwise, Fig. 4), and the trigger members 19 in turn actuate means effecting movement of swinging score indicators in the form of jig saw puzzle parts 23 from a vertical position to a horizontal score-registering position; the object of the player being to play the balls into the ball exit openings 13 having the highest scoring values and thereby to operate or raise the similarly numbered score indicators or interlocking puzzle parts 23 into registered, that is, horizontal position; and a perfect score will raise all the score indicators, that is, the entire bank of puzzle parts 23, and interlock the same to complete the assembly of the jig saw puzzle.

In playing the new game apparatus the player attempts to enter the playing balls in one of the holes 13 that are represented by row "A" (Fig. 1), because when a ball passes through one of the holes 13 in row "A" into the corresponding ball runway 16 it actuates all of the trigger members 19 in that particular ball runway 16 and hence, in a manner presently to be described, operates all of the puzzle parts 23 in the corresponding row ("E", "F", "G", "H" or "I") of puzzle parts 23, Fig. 1; whereas if a ball enters one of the ball exit openings 13 in row "B", for example, it

will actuate only those score indicators or puzzle parts 23 in the particular row "E", "F", "G", "H" or "I", as the case may be, that are controlled by the trigger members 19 associated with the ball exit openings 13 in the rows "B", "C" and "D" (Fig. 1). More specifically, and for example, a ball entering a scoring hole 13 B (Fig. 1) will successively operate the score indicators or puzzle parts 23 designated L, K, J, in row F, (Fig. 1) but will not operate indicator 23 designated M in row F.

Associated with each trigger member 19 is a rod or wire 24. Each of these rods or wires 24 has one end attached to the arm 21 of the corresponding trigger member 19; the other end portion of each of the rods 24 having formed therein a cross arm 25. Each of these cross arms 25 is mounted on a guide plate 54 attached to the under side of a reset member or board 32 and each of these cross arms 25 is urged by a spring 27 into latching engagement with a notch 26 formed in a vertical bar 28. Pivotaly attached to each of the bars 28 at its upper end is an arm 29 of a corresponding score indicator or puzzle part 23. These score indicators or puzzle parts 23 are swingingly mounted above the playing board 12 on horizontal rods 30 which extend parallel to each other transversely across the playing board 12.

Arranged below the playing board 12 and pivotally mounted at one end in the cabinet 10, as at 31, is a pivotal reset member in the form of a board 32 upon which are mounted the ball return runways 16, the trigger members 19, the rods 24, the springs 27, and associated parts. Formed in this board 32 is a series of slots 33 over each of which series is a guide plate 34 (Fig. 4). Each of these guide plates 34 is provided with slots 35 and the bars 28 are projected through and guided for vertical movement in these slots 35 (Figs. 2 and 4), for a reason presently to be explained.

The other or free end of the reset member board 32, that is the end opposite the end having the pivotal mounting 31, is mounted for up and down, that is, vertical movement; and to this end a rock shaft 36 is arranged below the board 32. The rock shaft 36 extends transversely across the cabinet 11 and is rotatably journaled in supporting brackets 37 which depend from the playing board 12 (Fig. 2). The reset member or board 32 bears at its free end with its weight upon anti-friction members 38 that are rotatably mounted on and project laterally from arms 40 that are carried by the rock shaft 36. One of these arms 40 (Fig. 4) has an extension 41 which is pivotally connected, as at 42, to one end portion of a bar 43. The other end portion of this bar 43 is in turn pivotally connected, as at 44, (Fig. 4) to an arm 45 and this arm 45 is suspended from, and pivotally connected, as at 46, to one of the brackets 37. This arm 45 is in turn pivotally connected, between its upper and lower ends as at 48, (Fig. 4) to a slide bar 49. This slide bar 49 has a slot 50 formed therein and it is guided by a pin 51 which projects through the slot 50. This pin 51 is carried by the adjacent bracket 37 (Figs. 4 and 5). The outer end of this slide bar (left hand end, Figs. 4 and 5) has abutting engagement with a coin slide 52 so as to be operated thereby (to the right, Figs. 4 and 5) while a spring 53 retracts the slide bar 49 after each operation. This spring 53 has one end attached to a pin 54 which projects laterally from

the slide bar 49 (Fig. 5) while the other end of the spring is attached to the pin 51.

Operation

At the start of the playing operation, the score indicators or puzzle parts 23 are all arranged in vertical position and the latch arms 25 are engaged in the notches 26 (see Fig. 4) of the bars 28.

The playing balls are fed one by one into the ramp 14 in front of the ball projecting device or plunger 15 by which they are successively projected through the ramp 14 onto the playing surface 12 and, depending upon the skill with which the plunger 15 is operated, the played ball may enter any one of the ball exit or scoring openings 13 from which it will fall into the corresponding inclined ball runway 16. As the ball travels down the runway 16 it engages and passes over one or more arms 20 of the trigger members 19, depending upon which row A, C, C or D of ball scoring holes 13 the ball enters; and the ball thus depresses one or more arms 20 and pivots a corresponding number of trigger members 19 (counterclockwise, Fig. 4). This movement of the trigger member or members 19 pulls a corresponding number of the rods 24 (to the right, Figs. 4 and 5) and disengages a like number of latch arms 25 from the notches 26 in the vertical bars 28, whereupon the bars 28 drop by gravity and, in so doing, pivot the score indicators or puzzle parts 23 into horizontal and interlocked, score-registering position.

To reset the score indicators or puzzle parts 23 into vertical position necessitates the insertion of a coin of proper denomination into the coin chute associated with the coin slide 52, whereupon the coin slide 52 may be moved inwardly (to the right, Figs. 4 and 5). This operative movement of the coin slide 52 also moves the slide bar 49 inwardly and this movement of the slide bar 49 causes the arms 40 and the rock shaft 36 to be rotated (clockwise, Fig. 4), thereby pivoting the reset member or board 32 at 31 (counterclockwise, Fig. 4) and thus dropping the free end of the board 32 into the dotted line position of Fig. 4. This pivotal movement of the board 32 is effected through the operation of the slide bar 49 and the operating mechanism 45, 44, 43, 42, 41, 40 and 36 associated therewith.

As the free end of the board 32 is thus pivoted downwardly, the rods 24, which are carried by and mounted on the board 32, are also pivoted downwardly, (counterclockwise, Fig. 4); and during this movement of the board 32 and the rods 24, the tensioned springs 27, urging the rods 24 (to the left, Fig. 4) reengage the cross arms 25 of the rods 24 in the notches 26 of the vertical bars 28.

After the coin slide 52 has made a full inward or operative stroke, and is released, the slide bar 49 is returned to its initial position (to the left, Figs. 4 and 5) by the action of the tensional spring 53 and this movement of the slide bar 49 acts through the associated mechanism 45, 44, 43, 42, 41 to rotate the arms 40 and the rock shaft 36 (counterclockwise, Fig. 4). This movement of the arms 40 and rock shaft 36 lifts the free end of the board 32, pivoting the board 32 (clockwise, Fig. 4) back to its normal or raised position, and as the board 32 is thus returned to its raised position it acts through the rods 24 to raise the vertical bars 28, thereby pivoting the score indicators or puzzle parts 23 (counterclockwise, Fig. 4) back into vertical and reset position ready for play,

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which may be resumed by insertion of a coin into the coin aperture of the coin slide 52.

Each of the score indicators 23 has a projecting portion or arm 55 (Fig. 1) and when the vertical members 28 drop by gravity these arms 55 engage under the adjacent supporting rods 30 to stop the indicators 23 in horizontal position.

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. A game apparatus comprising the combination of: a member providing a playing surface having ball exit openings therein; inclined ball runways arranged below said playing surface and having communication with said ball exit openings; a bank of members pivotally mounted upon said playing surface for movement into and out of vertical and horizontal positions; trigger members arranged in said ball runways for operation by balls traveling therealong; and means actuated by said trigger members for effecting movement of said pivotal members into horizontal position; said means comprising vertically movable members having connection with said pivotal members and tending to drop by gravity to move said pivotal members into horizontal position; and said means including members having connection with said trigger members and latching said vertically movable members in raised position against the attraction of gravity.

2. A game apparatus comprising the combination of: a member providing a playing surface having ball exit openings therein; a pivotal member arranged below said playing surface and having a series of inclined ball runways arranged therein having communication with said ball exit openings; a bank of score indicators in the form of interlocking puzzle parts swingingly mounted upon said playing surface for movement into and out of vertical position and into and out of interlocked horizontal position; a series of trigger members pivotally mounted in each of said runways for operation by balls traveling therealong; means actuated by said trigger members for effecting movement of said score indicators into interlocked, horizontal position; and means cooperating with said first-named means and pivotal member to reset said score indicators into vertical position.

3. A game apparatus comprising the combination of: a member providing a playing surface having ball exit openings therein; a pivotal member arranged below said playing surface and having a series of inclined ball runways arranged therein having communication with said ball exit openings; a bank of score indicators in the form of interlocking puzzle parts swingingly mounted upon said playing surface for movement into and out of vertical position and into and out of interlocked horizontal position; a series of trigger members pivotally mounted in each of said runways for operation by balls traveling therealong; means actuated by said trigger members for effecting movement of said score indicators into interlocked, horizontal position; said pivotal member having slots extending vertically there-

through; said means including vertical members movable in said slots; said vertical members having attachment at their upper ends to said score indicators and tending to drop by gravity in said slots to pivot said score indicators into horizontal position; and latch members having connection at one end with said trigger members and having latching engagement at their other ends with said vertical members to retain the latter in raised position and the said score indicators in vertical position against the action of gravity.

4. A game apparatus comprising the combination of: a member providing a playing surface having ball exit openings therein; a pivoted member arranged below said playing surface and having a series of inclined ball runways arranged therein having communication with said ball exit openings; a bank of score indicators swingingly mounted upon said playing surface for movement into and out of vertical position and into and out of interlocked horizontal position; a series of trigger members pivotally mounted in each of said runways for operation by balls traveling therealong; means actuated by said trigger members for effecting movement of said score indicators into interlocked, horizontal position; said pivotal member having slots extending vertically therethrough; said means including vertical members movable in said slots; said vertical members having attachment at their upper ends to said score indicators and tending to drop by gravity in said slots to pivot said score indicators into horizontal position; and latch members having connection at one end with said trigger members and having latching engagement at their other ends with said vertical members to retain the latter in raised position and the said score indicators in vertical position against the action of gravity.

5. In a game apparatus, the combination of: a member providing a playing surface having ball exit openings therein; a pivoted member arranged below the said playing surface and having runways carried thereby in communication with said ball exit openings; said pivoted member having slots extending vertically therethrough; a plurality of pivotal score registering elements mounted upon the said playing surface; vertical members movable in said slots having attachment to said pivotal score-registering elements and tending by gravity to drop and move said pivotal elements into score-registering position; means carried by said pivoted member for latching said vertical members in raised position and said pivotal elements in non-score registering position against the action of gravity; and means arranged in the said ball runways and actuated by balls traveling therealong to release said latching means from engagement with said vertical members.

6. In a game apparatus, the combination of: a member providing a playing surface having ball exit openings therein; a pivoted member arranged below the said playing surface and having runways carried thereby in communication with said ball exit openings; said pivoted member having slots extending vertically therethrough; a plurality of pivotal score-registering elements mounted upon the said playing surface; vertical members movable in said slots having attachment to said pivotal score-registering elements and tending by gravity to drop and move said pivotal elements into score-registering position; means carried by said pivoted member for latching said vertical members in raised position and said piv-

otal elements in non-score registering position against the action of gravity; means arranged in the said ball runways and actuated by balls traveling therealong to release said latching means from engagement with said vertical members; spring means urging said latching means into engagement with said vertical members; means for pivoting said pivoted member downwardly away from said playing surface to effect reengagement of said latching means with said vertical members; and means urging said pivoted member upwardly toward said playing surface to raise said vertical members and reset said pivotal score-registering elements in non-score registering position.

7. A game apparatus, comprising: a member providing an inclined ball playing surface having ball exit openings therein and having a ramp for guiding balls onto said playing surface toward the upper end of said playing surface so that the said balls will travel downwardly over said playing surface; means for propelling balls up said ramp onto said playing surface; a score indicating device comprising a plurality of score indicators; means for mounting said score indicators upon said member for movement into and out of vertical and horizontal position; ball runways arranged below said playing surface and having communication with said ball exit openings; and means including members arranged in said runways and operable by balls traveling therealong for effecting movement of said score indicators into horizontal position.

8. A game apparatus, comprising: a member providing an inclined ball playing surface having ball exit openings therein in the upper portion thereof and having a ramp for guiding balls onto said playing surface toward the upper end thereof for travel downwardly thereover; means for propelling balls up said ramp onto said playing surface; score indicators; means for mounting said score indicators upon the lower portion of said member for movement into and out of vertical and horizontal positions; ball runways arranged below said playing surface and having communication with said ball exit openings; means including members arranged in said runways and operable by balls traveling therealong for effecting movement of said score indicators into horizontal position; and means arranged below the said playing surface coacting with said last-named means for resetting said score indicators into vertical position.

9. A game apparatus, comprising: a member providing an inclined ball playing surface having ball exit openings therein in the upper portion thereof and having a ramp for guiding balls onto said playing surface toward the upper end thereof for travel downwardly thereover; means for propelling balls up said ramp onto said playing surface; score indicators; means for mounting said score indicators upon the lower portion of said member for movement into and out of score-registering position; ball runways arranged below said playing surface and having communication with said ball exit openings; vertically movable counterweights having connection at their upper ends with said score indicators and tending to drop by gravity to move said score indicators into score-registering position; means for latching said counterweights in raised position and said score indicators in non-registering position against the force of gravity; and said means including members arranged in said runways and operable by balls traveling therealong

to release said latching means from engagement with said counterweights so as to allow said counterweights to drop by gravity and move said score indicators into score-registering position.

10. A game apparatus, comprising: a member providing an inclined ball playing surface having ball exit openings therein in the upper portion thereof and having a ramp for guiding balls onto said playing surface toward the upper end thereof for travel downwardly thereover; means for propelling balls up said ramp onto said playing surface; score indicators; means for mounting said score indicators upon the lower portion of said member for movement into and out of score-registering position; ball runways arranged below said playing surface and having communication with said ball exit openings; vertically movable counterweights having connection at their upper ends with said score indicators and tending to drop by gravity to move said score indicators into score-registering position; means for latching said counterweights in raised position and said score indicators in non-registering position against the force of gravity; said means including members arranged in said runways and operable by balls traveling therealong to release said latching means from engagement with said counterweights so as to allow said counterweights to drop by gravity and move said score indicators into score-registering position; and means coacting with said latching means to raise said counterweights and reset said score indicators into non-registering position.

11. A game apparatus, comprising: a member providing an inclined ball playing surface having ball exit openings therein in the upper portion thereof and having a ramp for guiding balls onto said playing surface toward the upper end thereof for travel downwardly thereover; means for propelling balls up said ramp onto said playing surface; score indicators; means for mounting said score indicators upon the lower portion of said member for movement into and out of vertical and horizontal positions; ball runways arranged below said playing surface and having communication with said ball exit openings; and means including members arranged in said runways and operable by balls traveling therealong for effecting movement of said score indicators into vertical position.

12. A game apparatus, comprising: a member providing an inclined ball playing surface having ball exit openings formed in the upper portion thereof and having a ramp for guiding balls onto said playing surface toward the upper end thereof; a bank of interfitting picture puzzle elements arranged upon the lower portion of said playing surface for movement into interfitting relationship wherein they cooperate with each other to form a picture puzzle of a preselected pattern; means for propelling balls up said ramp onto said playing surface; inclined ball runways arranged below said playing surface and having communication with said ball exit openings; means including members arranged in said runways and operable by balls traveling therealong to effect movement of said puzzle elements into interfitting relationship; and means coacting with said last-named means for moving said puzzle elements out of interfitting relationship.

13. A game apparatus, comprising a member providing a ball playing surface having ball exit openings formed therein; a bank of interfitting picture puzzle elements arranged upon said apparatus for movement into interfitting relation-

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ship wherein they cooperate to form a picture puzzle of a preselected pattern; ball runways having communication with said ball exit openings; means including members in said runways and operable by balls traveling therealong to effect movement of said puzzle elements into interfitting relationship; and means for resetting said puzzle elements out of interfitting relationship.

openings therein; a bank of interfitting puzzle elements arranged upon said apparatus for movement into interfitting relationship wherein they cooperate to form a puzzle of a preselected pattern; ball runways having communication with said ball exit openings; and means including members in said runways and operable by balls traveling therealong to effect movement of said puzzle elements into interfitting relationship.

14. A game apparatus, comprising a member providing a playing surface having ball exit

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