

[54] GAME APPARATUS

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[22] Filed: Dec. 14, 1971

[21] Appl. No.: 207,784

[52] **U.S. Cl. 273/125 R, 273/120 R, 273/121 R,
273/122 R, 273/95 D**

[51] **Int. Cl.** **A63f 7/00**

[58] **Field of Search**..... 273/108, 118-125

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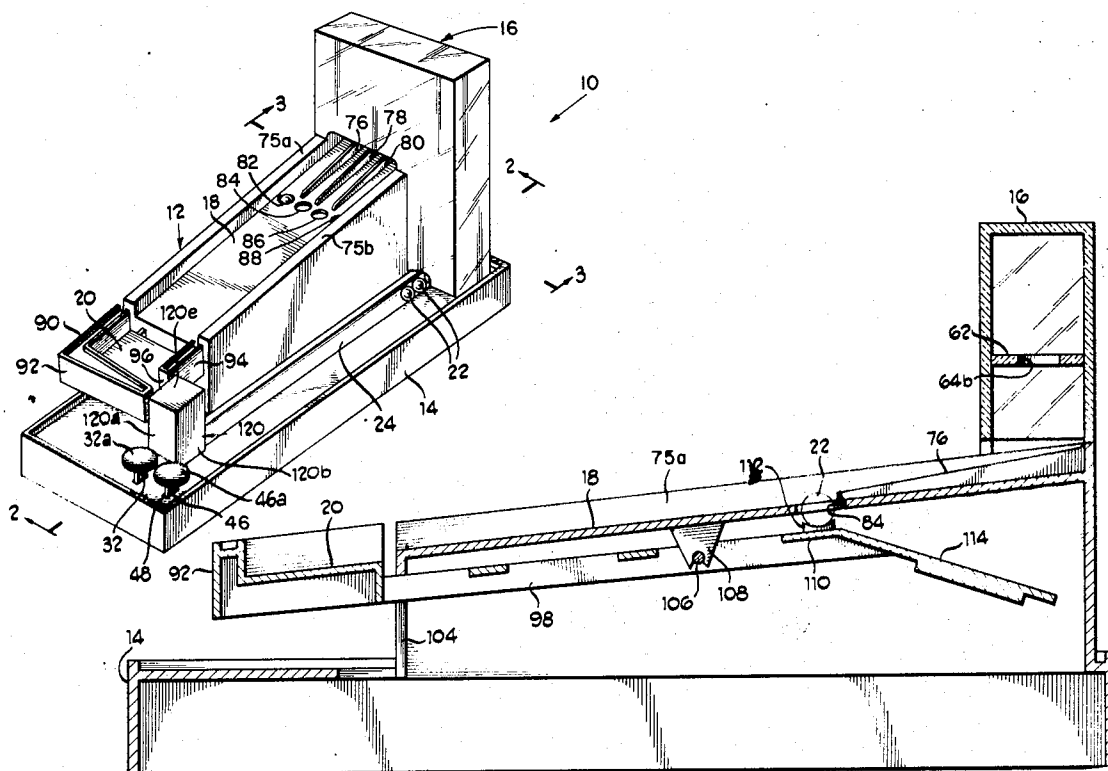
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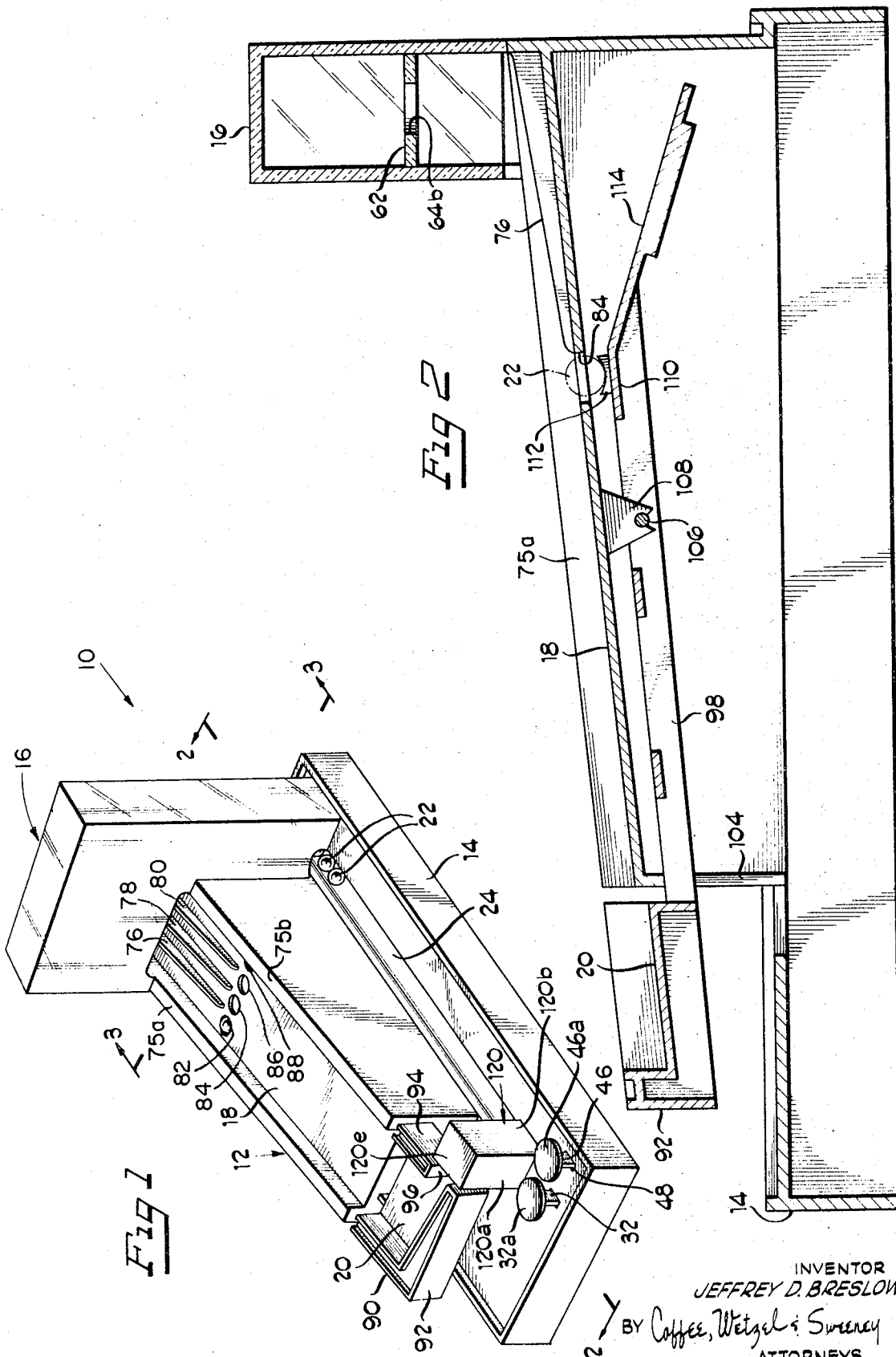
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[57] **ABSTRACT**

A bagatelle-type game including means for random dispensation of projectiles into a plurality of parallel channels with ball retaining apertures at the ends of the channels, and pivoted ball receiving tray spaced from the apertures and connected to an arm underlying the apertures, the tray being responsive to the weight of the projectile received therein to cause the arm to flip projectiles out of apertures in which they had been retained.

19 Claims, 6 Drawing Figures





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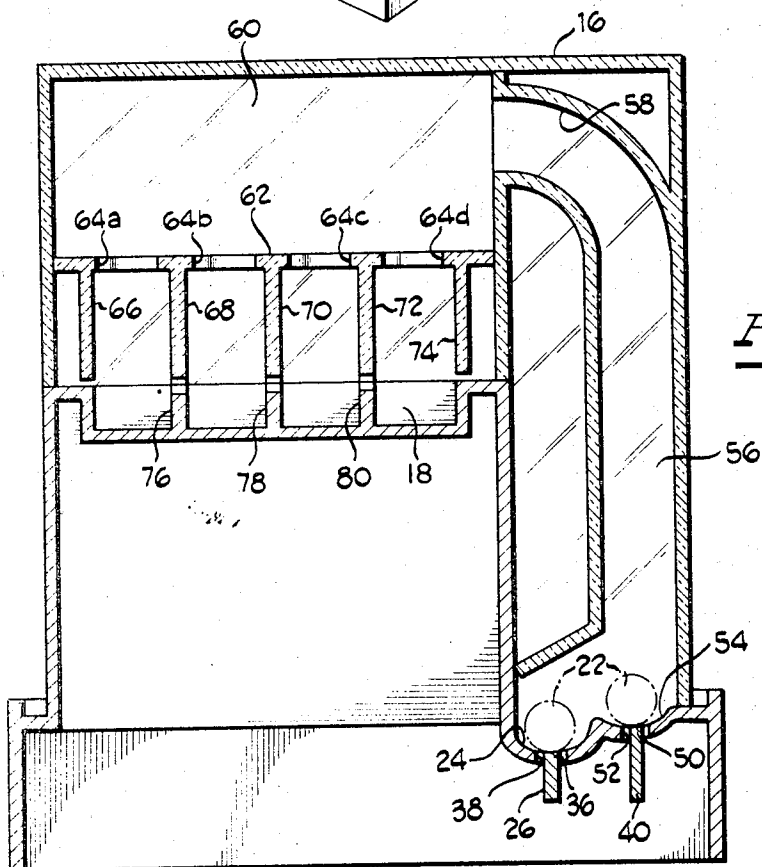
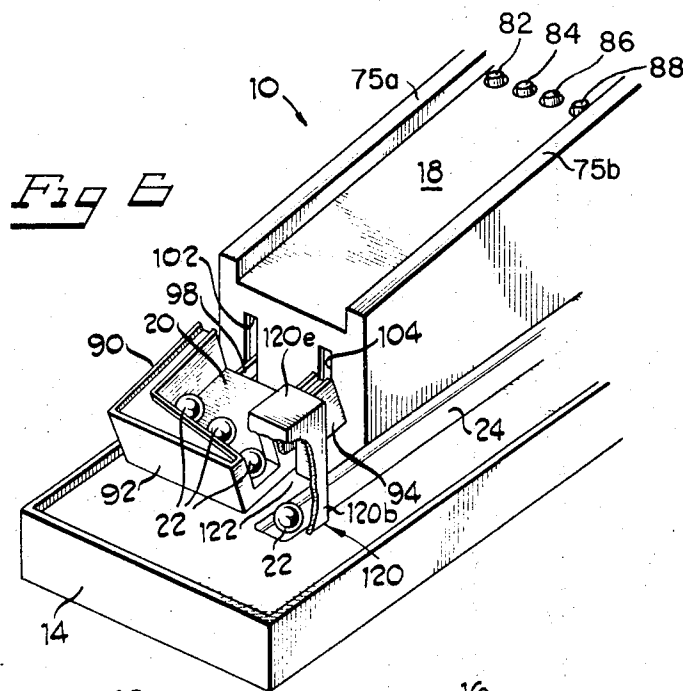


Fig 3

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GAME APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to game devices and more particularly to a bagatelle-type game.

2. Brief Description of the Prior Art

There are many forms of bagatelle games known in the art. Typically in such games, a ball is tossed or dropped through a chamber which will provide random dispensation of the ball in one of different paths of travel. It is common that a successful random dispensation will result in a projectile or ball being retained within an aperture or the like. Likewise, unsuccessful dispensation will cause the return of the projectile.

One prior art device shows a projectile ball game wherein a trap door-type means is located in the path of travel of a projectile and may be actuated responsive to the occupation of a pre-determined amount of weight thereon to dislodge a plurality of projectiles which may be occupying a receiving area or channel. In the prior art game, the game, the projectiles are merely rolled down a tortuous path of travel, or the like.

It is the object of this invention, to provide an improved form of a bagatelle-type game wherein projectiles are launched into a random dispensation means for dispensing into a plurality of paths having projectile retaining means thereon, and further having a means for dislodging retained projectiles responsive to the unsuccessful dispensation of the projectile out of the dispensing means.

SUMMARY OF THE INVENTION

This invention is directed, in brief, to the provision of an improved bagatelle game wherein projectiles are launched into a random dispensation means and fed outwardly for captivation into specific receiving areas.

The best mode currently contemplated for carrying out the invention includes the provision of a projectile launching means adjacent a vertical enclosure having means defining different vertical channels there-through. Each of the vertical channels is in communication with horizontal channels on a downwardly inclined ramp, with projectile receiving apertures in each of the horizontal channels. A movable projectile receiving tray is provided at the end of the ramp and is connected with a projectile ejecting arm which underlies the apertures, so that projectiles which are not captivated in the apertures will be received on the tray, causing the tray to move and the ejecting arm to eject all of the projectiles which may be received in the apertures.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the game device of this invention;

FIG. 2 is a section view taken generally along the line 2—2 of FIG. 1;

FIG. 3 is a section view taken generally along the line 3—3 of FIG. 1;

FIG. 4 is a top plan view partially broken away in section of the game device shown in FIG. 1;

FIG. 5 is a fragmentary section view taken generally along the line 5—5 of FIG. 4; and

FIG. 6 is a fragmentary perspective view of the forward end of the game device showing the projectile receiving tray moved downwardly responsive to occupation of a certain number of projectiles thereon.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, as some modifications may be obvious to those skill in the art.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to FIG. 1 in greater detail, the game 10 of this invention includes means generally defining a housing 12. The housing 12 includes a base portion 14, a vertically enclosed chamber 16 at the rear end of the base, a forwardly inclined ramp 18 leading from chamber 16, and a tray 20 movably supported at the forward end of ramp 18. The game further includes a plurality of projectiles 22 (FIG. 6) for use during the play of the game. Preferably, the housing and its components are made of suitable rigid materials, such as plastic, or the like.

The base 14 has a channel 24 along one side of the top thereof. As best shown in FIG. 5, a lever 26 underlies the channel 24 and is pivoted on pin 28 between brackets 30. Lever 26 has an upturned forward end 32 terminating in a button 32a with the forward end extending through an opening 34 in the base 14. The lever further has an upturned rear end 36 which extends through an opening 38 at the rear end of the base located within the confines of the vertical chamber 16.

As shown in FIG. 4, a second lever 40 underlies the base generally parallel, and closely adjacent, to the first lever 26. The second lever 40 also has a pivot 42 for pivotally mounting the lever between the brackets 44. The second lever further has an upturned forward end 46 terminating in a button 46a which extends through an opening 48 in the base 14 closely adjacent to upturned end 32 and button 32a. The second lever 40 further includes an upturned rear end 50 extending through an opening 52 also located within the confines of the vertical chamber 16. The opening 52 is located in a vertically offset receiving area 54 which is located laterally adjacent to, but slightly raised, relative to the terminus of channel 24.

As shown in FIG. 3, the vertical chamber includes a vertical channel 56, which rises above the receiving area 54 and has a curved, or partially returned portion 58, which opens into enlarged chamber 60 at the top of the vertical chamber 16. Enlarged chamber 60 is spanned by a cross-web 62 having aligned openings 64a, 64b, 64c and 64d therein, which are slightly larger than the diameter of a projectile 22. Cross-web 62 supports vertically depending webs 66, 68, 70, 72 and 74, which are spaced to the outside of, and between, the several openings 64a, 64b, 64c, and 64d to define vertical projectile dispensing channels or funnels.

Turning again to FIG. 1, ramp 18 is depressed, having upstanding sidewalls 75a and 75b. The ramp extends downwardly and forwardly away from the vertical chamber 16. A target area is defined below the vertical chamber. The target area includes upwardly extending ribs 76, 78 and 80 on ramp 18 which combine with the ramp sidewalls and the vertical webs of the chamber to define projectile feeding passages. Also in the target

area is means defining a projectile retaining station is formed in the ramp 18 adjacent the terminal ends of the ribs 76, 78 and 80. In the preferred embodiment, this means takes the form of apertures 82 through 88 which extend through the ramp.

Turning to FIGS. 1 and 6, the tray 20 constitutes a projectile receiving means and is provided with side-walls 90, 92 and 94 with the space 96 between walls 92 and 94 providing a passage for feeding projectiles 22 to the channel 24. Tray 20 is connected to a pair of arms 98 and 100 which extend through slots 102 and 104 in the housing 12. A pivot pin 106 extends through brackets 108 in the interior of housing 12 and is connected to arms 98 and 100 for pivotally mounting the tray 20 and the arms with respect to the housing 12. The arms 98 and 100 support a panel 110 in the area underlying the apertures 82 through 88. Panel 110 has a plurality of sockets 112 which are in registration with the openings 82 and 88. The sockets 112 serve to retain the ball-like projectiles which drop through the apertures 82 through 88. Panel 110 terminates in a downwardly inclined portion 114 (FIG. 2) at the rear thereof which combines with the underside of ramp 18 to form a stop for limiting the downward movement of tray 20 as it pivots on pin 106.

In operation, projectiles 22 are fed down the channel 24 where they are flipped to the vertically offset receiving area 54 by depression of button 32a. Depression of button 46a then launches the projectiles upwardly in the vertical chamber 16 for random dispensation through the openings 64a through 64d and downwardly between the ribs 66 through 74 and onto the ramp 18 between the ribs 76 through 80. As projectiles roll across an unoccupied aperture 82 through 88, they will be captivated therein. If a projectile rolls across an occupied aperture, or for some reason is not captivated, it will continue to roll down ramp 18 until it reaches tray 20. The occupation of one or more projectiles in tray 20 will cause the tray to pivot downwardly and cause the panel portion 110 to move upwardly, thereby ejecting projectiles 22 from the sockets 112 and apertures 82 through 88, whereupon these projectiles will also be fed down through the tray 20.

Of course, the number of projectiles to be received in tray 20 to cause the tray to pivot and eject projectiles from the apertures 82 through 88 can be varied simply by varying the size and, thus, the weight of the inclined portion 114 as well as varying the fulcrum location of the pivot pin 106. In addition, apertures 82 through 88 could be made in the form of holes having sufficient depth to receive more than one projectile until the top-most projectile causes subsequent projectiles to pass thereby.

For assisting in feeding projectiles 22 from tray 20 to channel 24, a feeding magazine 120 is provided over channel 24, adjacent tray 20. Magazine 120 is a hollow cubical structure having walls 120a, 120b, 120c and 120d and a top 120e defining a projectile feeding enclosure 122. Wall 120d is of reduced depth, permitting egress of a projectile 22 from tray 20 when the tray is depressed, but blocking egress through opening 96 of tray 20 when the tray is elevated. Wall 120c is longer than wall 120d but terminates a distance above channel 24 sufficient to permit passage of a projectile 22 thereunder.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary

limitations should be understood therefrom, as some modifications may be obvious to those skilled in the art.

I claim:

1. A game device comprising:

a plurality of projectiles;

means defining a target area including a surface along which projectiles move and a plurality of retaining stations disposed thereon and being capable of capturing and retaining a given number of projectiles as they move on said surface, said retaining stations being relatively positioned in such a manner that a projectile moving on said surface must associate with one of said stations, whereby the projectile either will be retained by that retaining station or pass by the retaining station should that station have captured said given number of projectiles;

means for introducing a projectile to the target area for movement on said surface through the target area;

ejection actuation means associated with the surface and disposed downstream of said retaining stations for sensing when a projectile has moved through the target area without being retained in one of said retaining stations; and

projectile ejecting means operably associated with said ejection actuation means for automatically removing the projectiles retained in at least one of the projectile retaining stations in response to the ejection actuation means sensing a projectile.

2. The game device of claim 1 wherein said ejecting means has means for removing the projectiles from all of the retaining stations in response to the ejection actuation means sensing a projectile.

3. The game device of claim 1 wherein each retaining station includes an opening in the surface which generally is the same size as a projectile, and including means defining a support surface under said openings to prevent the projectiles from falling completely through the openings.

4. The game of claim 1 wherein said ejection actuation means includes a gravity influenced ejection tray adjacent the target area for receiving any projectiles that are not captured by the retaining stations whereby the retained projectiles are ejected in response to the weight of a projectile disposed in said tray.

5. The game device of claim 4 including means for transporting the ejected projectiles in the tray to the projectile introducing means.

6. The game device of claim 4 wherein said ejecting means includes pivoted arm means mounted under the target area, said arm means including said ejection actuation means at one end of the arm means and projectile support means at the other end of the arm means under said retaining stations whereby the arm means pivots whenever a projectile not captured by a retaining station contacts the ejection actuation means causing the projectile support means to remove the projectiles from the retaining stations.

7. A game device including:

a plurality of rollable projectiles;

means defining a target area including an inclined ramp having upper and lower ends and having a plurality of projectile feeding passages down which the projectiles can roll and a plurality of retaining stations formed in said ramp one for each passage

for capturing and retaining at least one projectile which rolls down a passage, each retaining station having a given capacity of projectiles it can retain, whereby any projectile rolling down a passage whose retaining station is at full capacity will continue to roll down the ramp past said full retaining station toward the lower end thereof;

means for introducing projectiles onto the ramp at the upper end thereof;

a gravity influenced ejection actuation tray mounted near the lower end of the ramp for receiving any projectiles that are not captured by said retaining stations; and

projectile ejecting means associated with the target area and the actuation tray for automatically ejecting the projectiles that may be retained in at least one of the receiving stations, whereby the retained projectiles are ejected in response to the weight of a predetermined number of projectiles in said actuation tray whereafter all of the ejected projectiles roll down the ramp to the actuation tray.

8. The game device of claim 7 wherein each retaining station includes an opening in the ramp which generally is the same cross size as a projectile, and including means defining a support surface under said openings to prevent the projectiles from falling completely through the openings.

9. The game device of claim 8 wherein said ejecting means includes arm means pivotally mounted intermediate its ends below the ramp, said arm means having the tray means at one end thereof and the support surface means at the other end thereof beneath the retaining stations, said support surface means having a plurality of projectile retaining sockets one socket for each retaining station for retaining a projectile therein whereby the arm means pivots whenever a projectile is received in the tray causing the projectile support surface means to move the received projectiles upwardly through the opening and onto the ramp.

10. The game device of claim 9 wherein the support surface means is a unitary member so that when a projectile is received in the tray means, all of the projectiles received in the retaining stations are ejected simultaneously.

11. The game device of claim 7 wherein said projectile introducing means includes:

a launching station at the upper end of the ramp below the level thereof for supporting a projectile preparatory to launching; and

a launcher at the launching station for propelling a projectile upwardly therefrom toward the upper end of the ramp.

12. The game device of claim 11 wherein said projectile introducing means includes a random projectile dispensing chamber adjacent the upper end of the ramp for randomly dispensing launched projectiles into one of the passages.

13. The game device of claim 12 including means for transporting the ejected projectiles in the tray to the launching station.

14. The game device of claim 13 wherein the tray is always at a level higher than said launching station and said transporting means includes an inclined projectile supply ramp for carrying projectiles from the tray to the launching station.

15. A game device comprising:
a plurality of rollable projectiles;

means defining a target area including an inclined ramp having upper and lower ends for rollably supporting projectiles, said ramp having a plurality of projectile feeding passages down which the projectiles can roll and a plurality of projectile openings formed in said ramp one for each passage over which every projectile must roll when travelling down the respective passage and into which a projectile can be retained;

a launching station at the upper end of the ramp below the level thereof for supporting a projectile preparatory to launching;

a launcher at the launching station for propelling a projectile therefrom upwardly toward the upper end of the ramp; and

a pivoted arm member mounted below the ramp generally parallel thereto and having upper and lower ends on either side of the pivot, said upper end including a projectile support surface under said openings and having a plurality of projectile retaining sockets formed therein for receiving one projectile therein mostly below the surface of the ramp so that a projectile rolling down a passage whose opening is occupied will continue to roll downwardly on the ramp past said occupied opening; said lower end including a gravity influenced ejection actuation tray in a position for receiving any projectiles that are not captured in said openings whereby the arm member pivots whenever a projectile is received in the tray causing the tray to move downwardly and the support surface to move upwardly to lift the projectiles upwardly through the openings and onto the ramp wherein they roll into the tray.

16. The game device of claim 15 including a random projectile dispensing chamber adjacent the upper end of the ramp for randomly dispensing launched projectiles into one of the passages.

17. The game device of claim 15 wherein the tray is always at a level higher than said launching station and including an inclined projectile supply ramp for carrying projectiles from the tray to the launching station.

18. A game device comprising:

a plurality of projectiles;

means defining a target area including a surface along which projectiles may move having a plurality of projectile feeding passages and a plurality of retaining stations, one for each passage, for capturing and retaining a given number of projectiles as they move over said surface;

means for introducing a projectile to the target area for movement on said surface through one of said passages;

a gravity influenced ejection tray adjacent the target area for receiving any projectiles that are not captured by the retaining stations; and

pivoted arm means mounted under the target area having the ejection tray at one end thereof and projectile support means at the other end thereof under said retaining stations, whereby the arm means pivots causing the projectile support means to remove the projectiles from the retaining stations in response to the presence of weight in the form of an uncaptured projectile in said ejection tray.

19. A game device comprising:
a plurality of rollable spherical projectiles;

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means defining a target area including an inclined ramp along which projectiles may roll, the target area has a plurality of projectile feeding passages and a plurality of retaining stations, one for each passage, for capturing and retaining a given number of projectiles, whereby any projectile rolling down a passage whose retaining station has captured the given number of projectiles will continue to roll downwardly on the ramp past said retaining stations toward a lower end of the ramp; means for introducing a projectile to the target area for movement along one of said passages;

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ejection actuation means associated with the ramp and disposed downstream of said retaining stations for sensing when a projectile has moved through the target area without being retained in one of said retaining stations; and projectile ejecting means operably associated with said ejection actuation means for automatically removing the projectiles retained in at least one of the projectile retaining stations in response to the ejection actuation means sensing a projectile.

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