July 13, 1937. L. D. CHAMBERS 2,087,198

GAME APPARATUS

Filed Jan. 27, 1934 4 Sheets-Sheet 1

Fig. 1.

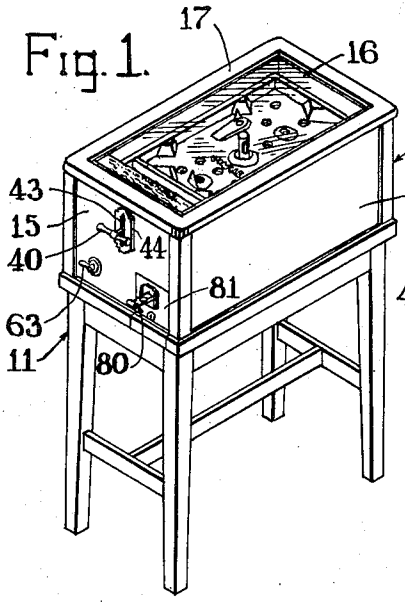
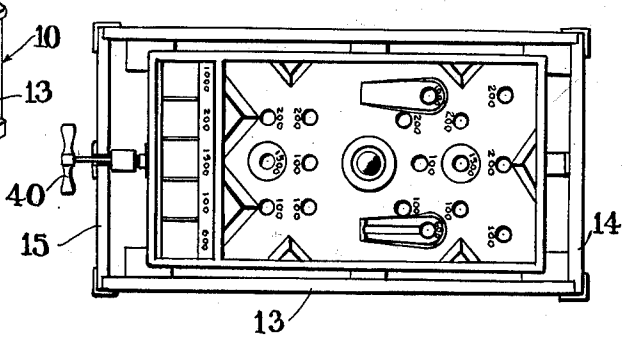


Fig. 2.



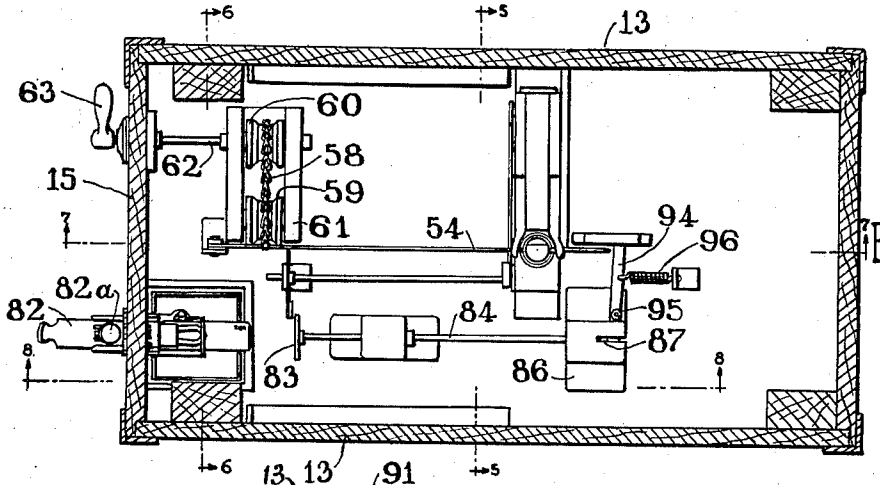


Fig. 3.

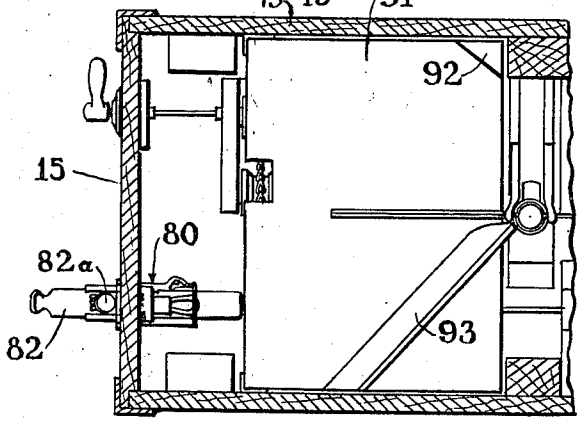


Fig. 4.

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Fig. 5.

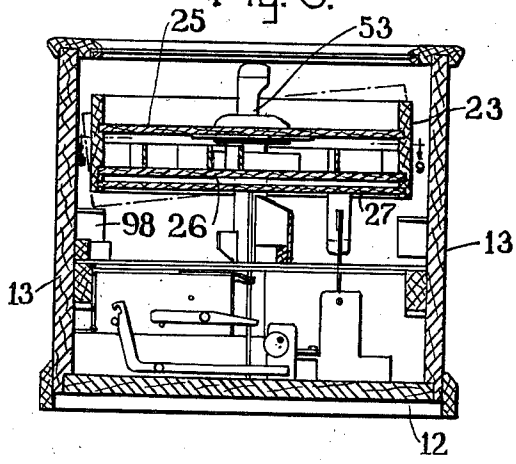
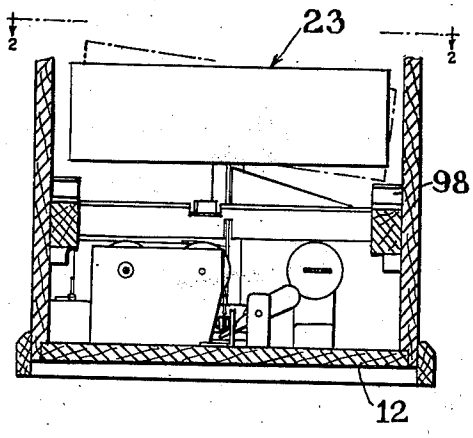


Fig. 6.



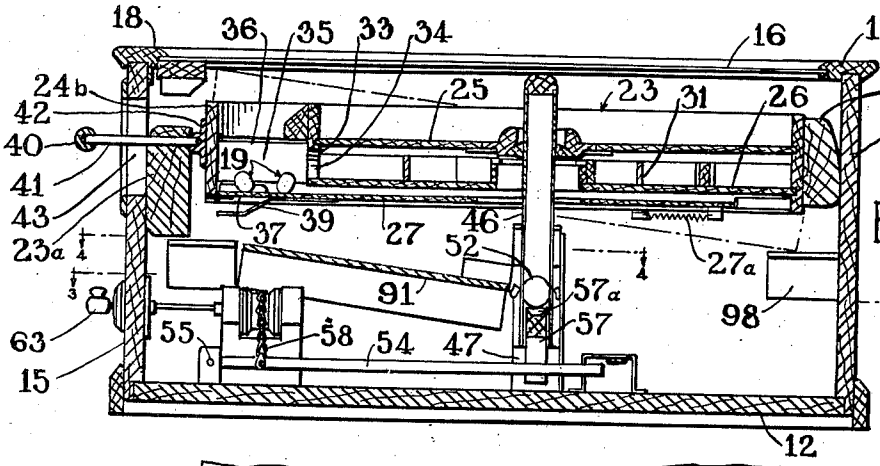


Fig. 7.

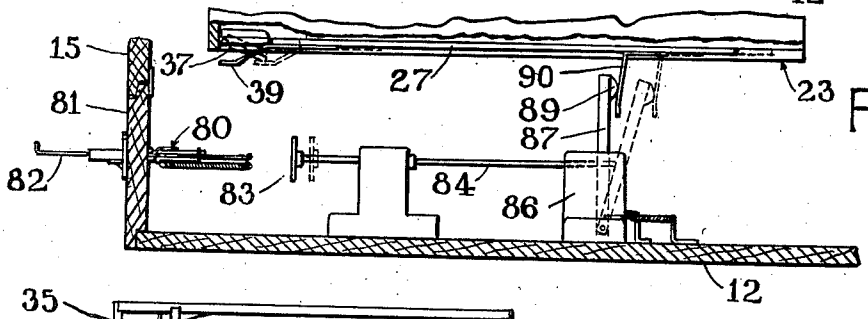
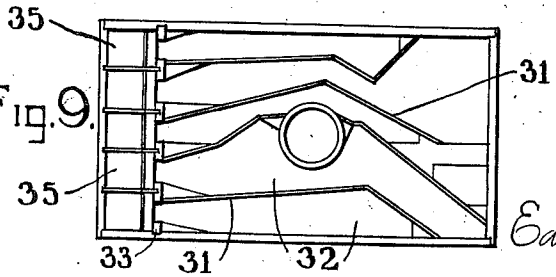


Fig. 8.

Fig. 9.



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GAME APPARATUS

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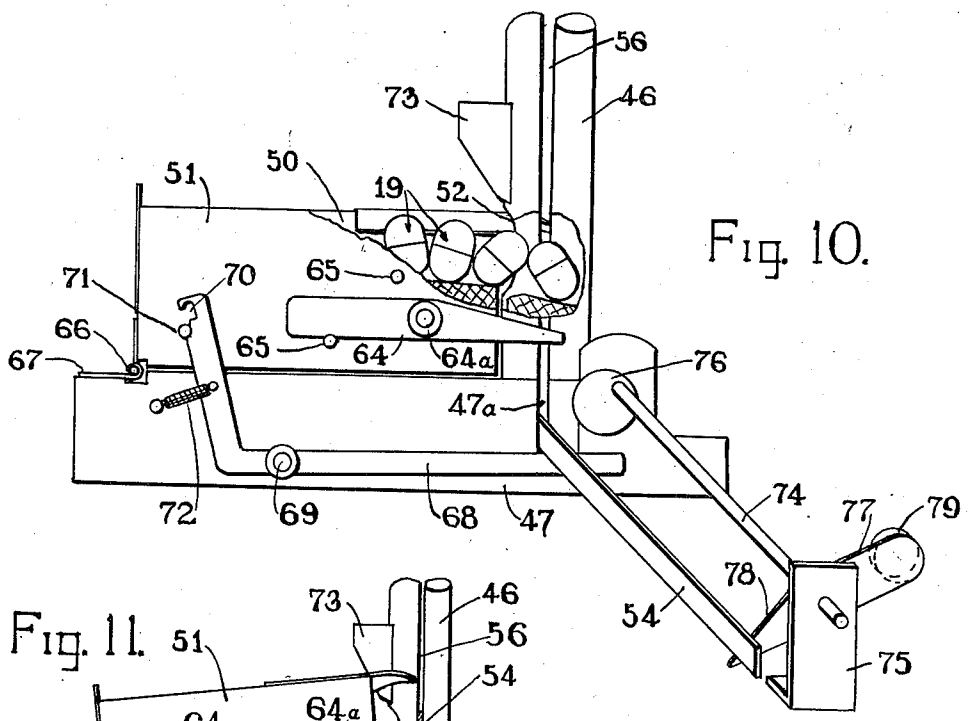


Fig. 10.

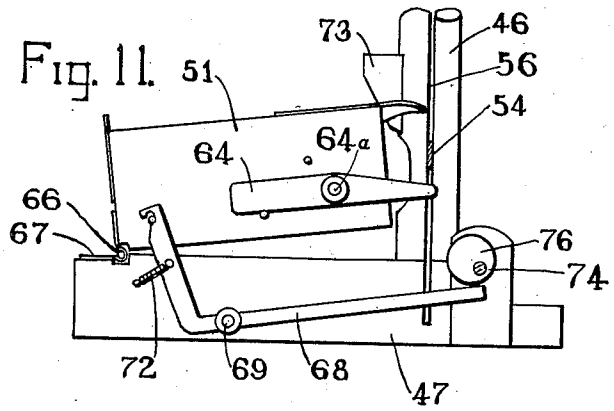


Fig. 11.

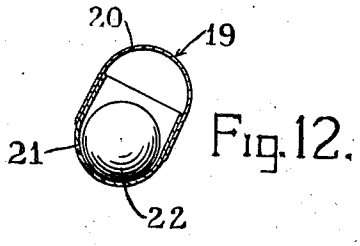


Fig. 12.

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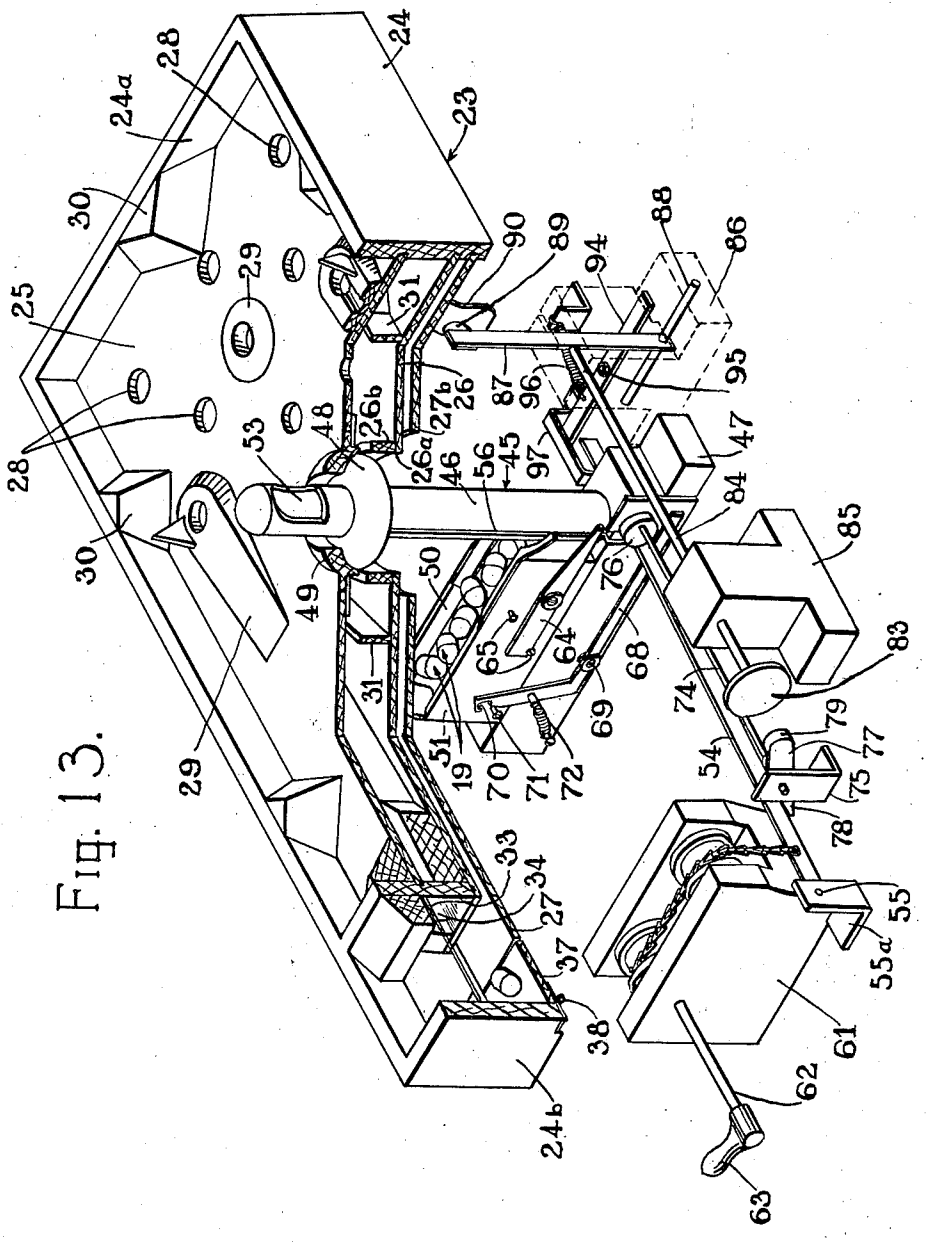


Fig. 13.

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Patented July 13, 1937

2,087,198

UNITED STATES PATENT OFFICE

2,087,198

GAME APPARATUS

Leverett D. Chambers, Forest Hills, N. Y., assignor, by mesne assignments, to Peerless Weighing and Vending Machine Corporation, a corporation of Delaware

Application January 27, 1934, Serial No. 708,532

10 Claims. (Cl. 273—110)

My invention relates to game apparatus of the table type and has for its general object to provide a new and improved table game employing tumblers or rollers which is interesting and entertaining to play and requires skill in its manipulation, thus minimizing the element of chance.

To the above and other ends which will subsequently appear the invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter described and particularly pointed out in the appended claims.

The preferred form of the invention is illustrated in the accompanying drawings wherein,

Fig. 1 is a perspective view of the game apparatus as a whole in which the invention is embodied;

Fig. 2 is a plan view of said apparatus;

Fig. 3 is a horizontal sectional view taken below the playing board or surface of the mechanism;

Fig. 4 is a fragmentary plan view showing particularly the sub-runway for delivering the tumblers to the operating mechanism;

Fig. 5 is a vertical sectional view taken on a plane indicated by the section line 5—5;

Fig. 6 is a fragmentary vertical sectional view taken on a plane indicated by the section line 6—6 in Fig. 3;

Fig. 7 is a longitudinal sectional view taken centrally of the apparatus;

Fig. 8 is a view showing the train of mechanism for releasing the tumblers;

Fig. 9 is a plan view showing the tracks in the playing board for directing the tumblers;

Fig. 10 is a perspective view of the tumbler agitating mechanism;

Fig. 11 is an operating view of part of the tumbler agitating mechanism;

Fig. 12 is a sectional view of a tumbler or roller of the type preferably employed in playing the game, and

Fig. 13 is a fragmentary perspective view of the game mechanism.

Referring to the drawings, as illustrated in Fig. 1 the game apparatus is enclosed within a rectangular boxlike casing 10 which is detachably secured or mounted in any suitable way on a supporting table 11. The casing or body 10 of the apparatus comprises a bottom 12, sides 13 and ends 14 and 15. These parts are preferably of wood suitably secured together. The top of the casing comprises a glass plate 16 contained in a wooden frame 17 which is detachably mounted on the casing but is secured thereto by locking devices of any suitable character indicated at 18 (Fig. 7). These are accessible only from the inside as hereinafter explained, so that the casing is sealed against tampering, thus protecting the devices comprising the apparatus proper contained herein.

Outlining these devices briefly, they comprise a playing element mounted for universal movement and controlled by an outside handle or finger piece, controlling mechanism for controlling the tumblers or rollers with which the game is played, this mechanism being operative by a handle on the outside of the casing separate from the playing-element handle; and, in the present instance, coin-controlled means for using the invention as a pay apparatus requiring the insertion of a coin to put the apparatus in playing condition. These devices will now be described in detail.

The present invention is particularly adapted for play with tumblers or roller devices as distinguished from ordinary spherical balls. These tumblers 19 as shown in Fig. 12 comprise each a thin metallic shell made up of two parts, 20 and 21, fitted tightly one within the other and enclosing a metallic spherical ball 22. The shell is ellipsoidal in character, the body portion being spherical and having rounded ends. The ball 22 fits loosely in the shell so that it may move freely, and when impelled the tumbler due to the enclosed ball moves irregularly or eccentrically as contrasted with the movement of an ordinary ball, thus adding to the interest of the game and the skill necessary to play it properly. It is of course to be understood that features of the invention may be employed with rollers of types different from the preferred tumbler above described; and the term "rollers" as employed in the claims is comprehensive of any rolling object or device.

At the start of the game and preliminary to the insertion of the coin, the tumblers 19 are contained in the playing element aforesaid. This playing element 23 is boxlike in form, made preferably of wood and comprising a frame 24 within which is secured an upper plate 25 and spaced downward therefrom a lower plate 26 (Figs. 2, 5, 7, 9, and 13). The plates 25 and 26 are fixed in the frame 24, the upper plate 25, whose top face is the playing surface, being spaced downward from the top of the frame 24 so as to provide a rim 24a all around the playing element to confine the tumblers. Below the plate 26 is mounted for slidable longitudinal movement in grooves in the frame 24 a releasing plate 27 for

releasing the tumblers after they have all been played as a preliminary to restarting play.

The upper plate or playing board **25** is perforated, being provided with a series or set of openings **28**, which are guarded by bosses, ramps and the like, indicated at **29**, to increase difficulty of access by the tumblers; and the rim **24***a* is preferably provided at intervals with projections **30**. The underlying plate **26** is provided with upstanding walls or partitions **31** to form runways **32**, each of these runways underlying one or more of the ball openings **28**. The ball openings, as appears from Fig. 2, are given varying values as 100, 200, 600, 1000, 1500, etc., there being a larger plurality of holes or openings for each of the lower values. At the front of the apparatus the playing plate **25** and the runway plate **26** are connected by a vertical partition **33** formed with openings **34**, each communicating with one of the runways and leading into stalls or compartments **35**. These stalls are formed by side partitions or walls **36** which are parallel and extend between the partition **33** and the front wall **24***b* of the frame **24**. The bottom of the stalls **35** is constituted by the forwardly projecting portion of the slide plate **27** and by a movable releasing plate **37** hinged at **38** at its forward edge to the frame wall **24***b*. This hinged plate may swing downward to release the tumblers as hereinafter described when the game is to be started, but normally are maintained in line with the floor of the slide plate **27** by a metallic finger **39** secured to the underside of the plate **27** at about its middle and projecting forward therefrom. The forward end portion of said finger is bent downward or offset as best shown in Figs. 7 and 8. Draw springs **27***a* constantly tend to pull the plate **27** forward in its guide grooves and normally maintain the abutting ends of the plates **27** and **37** in contactive engagement.

The tops of the stalls **35** are preferably covered by a window and are designated by suitable indicia, as shown, corresponding with the indicia of the ball openings **28**, thus enabling the game to be totalled at its conclusion in accordance with the number of tumblers **19** contained in the corresponding stalls. For example, if two of the tumblers are contained in the stall numbered 1000 this adds 2000 to the score of the player, and so on.

The playing element **23** is controlled by a double crank or handle **40** secured to the outer end of a rod **41** which fixedly engages in a metallic seat or socket **42** secured centrally to the wall **24***b* of the playing element **23**. The rod **41** projects through a vertical slot **43** preferably guarded by a metallic guard plate **44**. The playing element **23** is mounted for universal movement on a central support **45** comprising a hollow upright standard or tubular post **46** fixedly seated at its lower end in a block **47** secured to the base plate or bottom **12** of the casing. Near its upper end portion, the tubular post **46** is provided with a bearing flange **48**, the top face of which is curved or rounded to provide a bearing seat for the member **23**. Said member is provided with a perforated, reinforced portion **49**, which fits over and cooperates with the flange or seat **48** in a way which permits free movement of the member in all directions under control of the handle **40**. As clearly shown in Fig. 13, the underlying plates **26** and **27** are formed with enlarged openings indicated at **26***a* and **27***a* respectively, to prevent interference with movements of the playing element and also of the releasing plate **27**. The opening **26***a* may be provided with an upstanding arm **26***b* to prevent escape of the tumblers. Safety buffers, as **23***a*, may be provided at the front and back of the playing element, if desired.

The supporting member **45** for the playing element also functions as a guide for the tumblers **19**. Preliminary to play these tumblers are received in a grooved runway **50** formed in the top of a member **51** hereinafter referred to as an agitator block, said runway communicating with a tumbler opening indicated at **52** in the lower left-hand end portion of the tubular post **46**. At the opposite side near its top said post is provided with an opening **53** through which the tumblers are extruded to fall on the top of the playing board **25**.

The agitator block **51** provides a supply receptacle for the rollers or tumblers and is an element in the train of mechanism for controlling the tumblers, said train being particularly adapted to the control of the special tumbler device **19** as distinguished from ordinary spherical balls. It was found in the course of the development of the invention that the tumblers had to be positively moved or agitated following each play as otherwise they would be liable to stick or lodge against each other and against cooperating parts, thus interfering with or preventing the playing of the game. Means therefore are provided not only for actuating the tumblers from inactive to playing positions, but also for moving, agitating or disturbing the remaining tumblers in the grooved supply receptacle **51** after each of said actuations. The train of playing mechanism comprises a lever or bar **54** pivoted at its front end at **55** to a stationary bracket **55***a* suitably secured to the base plate **12** and projecting forward through guide slots **56** formed at diametrically opposite sides of the tubular post **46**. The block **47** is correspondingly slotted at **47***a* to permit the lever **54** to drop to its lowermost or normal position. Mounted for free up-and-down movement in the tubular post **46** is a wooden plunger **57** which is operated or slid upward by the lever **54** carrying with it the tumbler **19** which is in play, said tumbler falling into place through the opening **52** and being extruded through the opening **53** at the end of the upstroke, the top of the plunger being cut away or bevelled as indicated at **57***a* to insure that the tumbler falls freely through the opening **53** on to the playing board. This will occur as soon as the tumbler clears the opening or vent **53**.

The operating lever **54** is hand-controlled through a train of devices comprising a chain **58** having one end secured to the lever **54** near its pivot, said chain thence passing upward and leftward over wooden pulleys **59** and **60**, mounted in a stationary block **61**, the other end of the chain being secured to the pulley **60**. But pulley **59** is an idler, the pulley **60** being the operated pulley and being mounted on a rockshaft **62** which bears in the block **61** at its inner end portion and thence extends forward through an opening in the end plate **15**, suitable bearing devices for the shaft being provided on said plate. The protruding outer end of the shaft **62** has secured to it a handle or crank **63**. When said handle is turned downward the chain **58** is actuated through the pulley **60** and lifts or swings upward the lever **54** operating the plunger **57** as described.

The lever **54** during its advance stroke or as it swings upward actuates an arm **64** pivoted at **64***a*

to the side of the agitator block 51. The arm 64 has a limited movement between pins 65 so as to permit free downward movement of the lever 54 on its return stroke without interference from the arm 64 which yields sufficiently to permit the lever 54 to pass it and then through gravity re-engages with the end pin 65. The supply receptacle or agitator block 51 is preferably a wooden block and is pivoted at its lefthand lower corners to the stationary block 47 on which it normally rests. The pivotal mounting may comprise lateral pins 66 which engage bearings formed at the ends of brackets 67 secured to the block 47. When the block is in its normal position of rest as shown in Figs. 10 and 13 the grooved runway 50 has a slight downward inclination towards the right so that the tendency is for the tumblers 19 therein to move rightward, the end tumbler resting on the top of the plunger 57, having passed through the opening 52 with which the groove normally registers. As the lever 54 rises it engages the arm 64 and swings the agitator block 51 upward about its pivots 66. When the block reaches the position shown in Fig. 11 the lever 54 clears the arm 64 but the agitator block is prevented from dropping back to normal by locking devices which, as illustrated, comprise an angular lever 68 pivoted at 69 to the side of the block 47. The upstanding short arm of the lever 68 is provided with an engaging opening 70 which at this time engages with a locking pin 71 on the block 51 as shown in Fig. 11 being maintained in this position by a draw spring 72 which constantly tends to swing the lever to the Fig. 11 position, but is normally restrained or overcome by the action of the lever 54 on the long horizontal arm of the lever 68 which underlies 54. The construction is such that when the lever 54 swings upward as described it releases the lever 68 and permits it to become effective as a lock for the block 51 as shown and described. As the block 51 swings upward the righthand tumbler in the runway engages with the cam 73 secured to the post 46, the cam operating to force the tumblers in the runway slightly leftward.

In order to insure the unlocking of the block 51 during return movements of the tumbler actuating device comprising the lever 54, no matter how gently this lever may be released and restored, a special means is provided for unlocking the lever 68 comprising a train of devices actuated by the lever 54 close to its pivot. This train comprises a rockshaft 74 bearing near its rear end in a block 47 and at its forward end in a stationary bracket 75. Near its rear end the rockshaft has secured to it an eccentric or cam member 76 which overlies the free end of the horizontal arm of the lever 68. Near its forward end the rockshaft 74 carries a lever member 77, the left arm 78 whereof is bevelled and underlies the lever 54 near its pivot by which lever 54 is normally restrained. The right-hand arm of the lever 77 carries a counterweight 79 which constantly tends to rotate the shaft 74 in clockwise direction viewed from the front. When the parts are released from the normal position illustrated in Fig. 10 by the upward swing of the lever 54 the eccentric 76 will be rotated to the Fig. 11 position under action of the counterweight 79 so that the swing of the lever 68 to locking position will not be interfered with. However, as soon as the return movement of the parts is started, the operating lever 54 will begin to act on the bevelled lever arm 78, turning the eccentric 76 backward and causing its face acting against the lever 68 to force the release of the lever from the pin 71, permitting the agitator block 51 to drop back to normal position in advance of the return of the operating lever 54 to its normal position. These devices comprising the unlocking cam or eccentric 76 insure the release of the container or block 51 no matter how gently the return stroke of the operating lever 54 is effected, and even though the stroke is not fully completed.

It will be understood that the return stroke or movement of the operating lever 54 and connected parts occurs when the handle 63 is released by the player; and also that each actuation of the handle 63 results in moving one of the tumblers 19 to the perforated playing board 25 where after manipulation of the element 23 by the handle 40 the tumbler dropping through one of the perforations 28 will make its way to one of the stalls 35. It will further be understood that on completion of the game all of the playing tumblers are in the stalls 35 and none of them is in position to be moved upward to the playing surface.

To release the balls from the stalls 35 and permit their movement to playable positions, means are provided which preferably are coin-controlled and comprise a coin-controlled unit indicated as a whole by the numeral 80 which may be of any suitable construction. This unit is mounted on a wooden block or plate 81 which fits into an opening in the front plate 15 of the casing and interlocks therewith, the interlock being controlled by a detachable key, not shown. It will be understood that when the plate 81 is removed, access is had to the casing enabling the top frame 17 to be disconnected and parts of the apparatus to be dis-assembled, as well as enabling the removal of coins previously inserted for playing purposes and which have dropped out of the unit 80, as is usual. The coin-controlled unit 80 is operated by a slide 82 provided with a coin receiving opening 82*a*, which slide is effective as a hand-piece. With the coin in place, the slide may be pushed in to its full working extent, complete movement being insured by full-stroke mechanism of any suitable type. The slide when thus pushed in is effective on a button 83 secured to the forward end of a rod 84 slidable in blocks 85 and 86 secured to the base plate 12. The inner end of the slide rod abuts against an upstanding arm 87 pivoted at its lower end at 88 in the block 86 in a slot to which it is guided. The upper end of said arm is provided with contact piece 89 which is engageable with a metallic finger 90 secured to the underside of the slide plate 27 slidably carried by the playing element 23.

When the coin slide 82 is properly operated it will contact with the button 83, pushing in the rod 84 and causing it to actuate the arm 87 whose contact piece 89 will as a result engage the finger 90 and slide the plate 27 rearward or from the player against its springs 27*a*. This movement of the plate withdraws the finger 39 from engagement with the hinged plate 37, permitting the latter to swing down about its pivot and release the tumblers in the stalls 35, which will run down the released inclined plate 37 on to a stationary underlying wooden guide plate 91. This guide plate inclines downward and rearward and communicates with the runway 50 in the container or agitator block. Side flanges or guides 92 and 93 on the plate 91 restrain the tumblers

and insure that all of them enter the runway when thus released.

Safety devices are provided to insure that the coin slide releasing device shall be properly actuated, thus preventing mishandling, said devices requiring that the coin slide be released and permitted to return to normal position under its own spring restoring means before the game apparatus is released for playing. Said safety devices comprise a horizontal lever **94** pivoted at **95** to the block **86**, the short arm of said lever being disposed in the path of the upright arm **87** so as to be actuated thereby. The longer arm of the lever **94** is connected to a draw spring **96** which tends to maintain the lever **94** engaged with the upright arm **87**. The outer free end of the longer arm of the lever **94** underlies a combined guide bracket and guard plate **97**. Said arm is in a plane above the rear end of the operating lever **54** and when the coin slide **82** is operated it is effective to throw the lever **94** over the operating lever **54**, thus preventing actuation thereof until the coin slide is fully released to permit retraction of the lever **94** to normal position under action of the draw spring **96**. On full retraction of the coin slide **82** the plate **27** is released and restored to normal position by its springs. During its return movement the finger **39** will engage the plate **37** and swing it back to normal position. At this time it will be understood that the stalls **35** are empty and all of the tumblers are in the agitator block **51** leaving the apparatus in position for play.

The operator first actuates the lever **63**, raising the plunger **57** and causing the first ball which rests on its top to be extruded at the end of the stroke through the opening **53** on to the playing surface of the playing member **23**. This playing member is now controlled by the player through the handle **40**, being either swung up or down vertically on the pivotal support **48** by raising or lowering the handle **40**, or swung laterally from side to side by twisting the handle **40**, or if desired combining the straight up-and-down and twisting movements of the handle to obtain a diagonal movement of the playing element on its pivot **48**. It will be seen that this free control of the playing element affords movement in any desired direction and enables the most skillful and careful player to more fully control or affect the movement of the tumbler or roller so that it may be guided towards the openings of highest denominations. Movements of the playing element are limited by suitably faced stop blocks **98** secured to the inner walls of the casing **10**. After the active tumbler enters one of these openings or perforations **28** it falls down on the underlying plate **26**, entering the registering runway **31** therein and thence passing into the corresponding stall **35**.

The player meantime may have released the handle **63** so as to devote his entire attention to the manipulation of the playing element through the handle **40**. As soon as the handle **63** is released the train of controlling mechanism will be restored to normal position, including the agitator block **51** which will drop back from the Fig. 11 to the Fig. 10 position. This movement of itself agitates or moves the remaining tumblers causing them to move longitudinally of their runway and insuring that the end ball will pass within the tubular post **46**. With a stationary block or tumbler-holder the tumblers would sometimes stick or interlock due partly to their irregular contour and variations in the manner in which they contact or engage with each other and the runway; and practice has shown the need of agitating or stirring the tumblers at intervals through the playing of the game in order to insure that it shall not be interrupted.

The described operations are repeated until all of the tumblers or rollers, ten in the present instance, have been played and have entered one or another of the stalls **35**. Thereafter a fresh coin will be required to enable the game to be replayed, as explained.

Various changes may be made without departing from the spirit and scope of the invention.

I claim:—

1. In apparatus of the character described, the combination of a playing element, a bearing member on which said playing element is movable comprising a hollow portion, a supply receptacle for rollers communicating with said hollow portion, and hand-operated means for transferring rollers one at a time from said receptacle through said hollow portion to said playing element.

2. In apparatus of the character described, the combination of a playing element, an upright tubular support providing a bearing on which said element is movable, a roller receptacle communicating with said tubular support through an opening below said element and hand-operated means for transporting rollers one at a time upward through said support and outward through an opening therein above said element and on to said element.

3. In apparatus of the character described, the combination of a playing element, a bearing member on which said playing element is movable comprising a hollow portion, a supply receptacle for rollers communicating with said hollow portion, and hand-operated means for transferring rollers one at a time from said receptacle through said hollow portion to said playing element, said means comprising a plunger within said hollow portion, an operating lever, a hand crank and connections between said crank and said lever.

4. In apparatus of the character described, the combination of a playing element, a bearing member on which said playing element is movable comprising a hollow portion, a supply receptacle for rollers communicating with said hollow portion, and hand-operated means for transferring rollers one at a time from said receptacle through said hollow portion to said playing element, said means comprising a plunger within said hollow portion, an operating lever, a hand crank and connections between said crank and said lever, said connections comprising a chain connected to said lever, a pulley connected to said chain and a pulley shaft, said crank being secured to said shaft.

5. In apparatus of the character described, the combination of a playing element, a supply receptacle for rollers, hand-operated means for transferring rollers one at a time from said receptacle to said playing element, and means operative by said hand-operated means for agitating said supply receptacle.

6. In apparatus of the character described, the combination of a playing element, a pivotally mounted receptacle formed with a groove for containing rollers, hand-operated means for transferring rollers one at a time from said groove to said playing element, and means operative by said hand-operated means for causing swinging movements of said receptacle on its pivot at each actuation.

7. In apparatus of the character described, the

AMUSEMENT DEVICES, GAMES

Search Room

combination of a playing element, a movably mounted supply receptacle for rollers, hand-operated means for transferring the rollers one at a time from said receptacle to said playing element, means operative by said hand-operated means for moving said receptacle to operated position, and latching means for retaining said receptacle in operated position, said latching means being automatically rendered ineffective during return movement of the hand-operated means.

8. In apparatus of the character described, the combination of a playing element, a movably mounted supply receptacle for rollers, hand-operated means for transferring the rollers one at a time from said receptacle to said playing element, means operative by said hand-operated means for moving said receptacle to operated position, and latching means for retaining said receptacle in operated position, and devices for releasing the receptacle by said hand-operated means in advance of the arrival of said hand-operated means at its normal position.

9. In apparatus of the character described, the combination of a playing board, a pivoted supply receptacle for rollers, means comprising an operating lever for transferring rollers one at a time from the supply receptacle to the playing board, said operating lever being effective on its advance stroke to move said receptacle on its pivot, a lock for retaining said receptacle in the position to which it is moved, and devices for unlocking said lock, said devices being operative by said lever during its return stroke.

10. In apparatus of the character described, the combination of a playing board, a pivoted supply receptacle for rollers, means comprising an operating lever for transferring rollers one at a time from the supply receptacle to the playing board, said operating lever being effective on its advance stroke to move said receptacle on its pivot, a spring-pressed locking lever for retaining said receptacle in the position to which it is swung, a cam for unlocking said locking lever, and devices connected to said cam and actuated by said operating lever during the forepart of its return stroke to cause said cam to act on said locking lever.

LEVERETT D. CHAMBERS.