W. E. BLACKBURN.

GAME APPARATUS.

APPLICATION FILED MAR. 13, 1919.

1,313,783.

Patented Aug. 19, 1919.

2 SHEETS—SHEET 1.

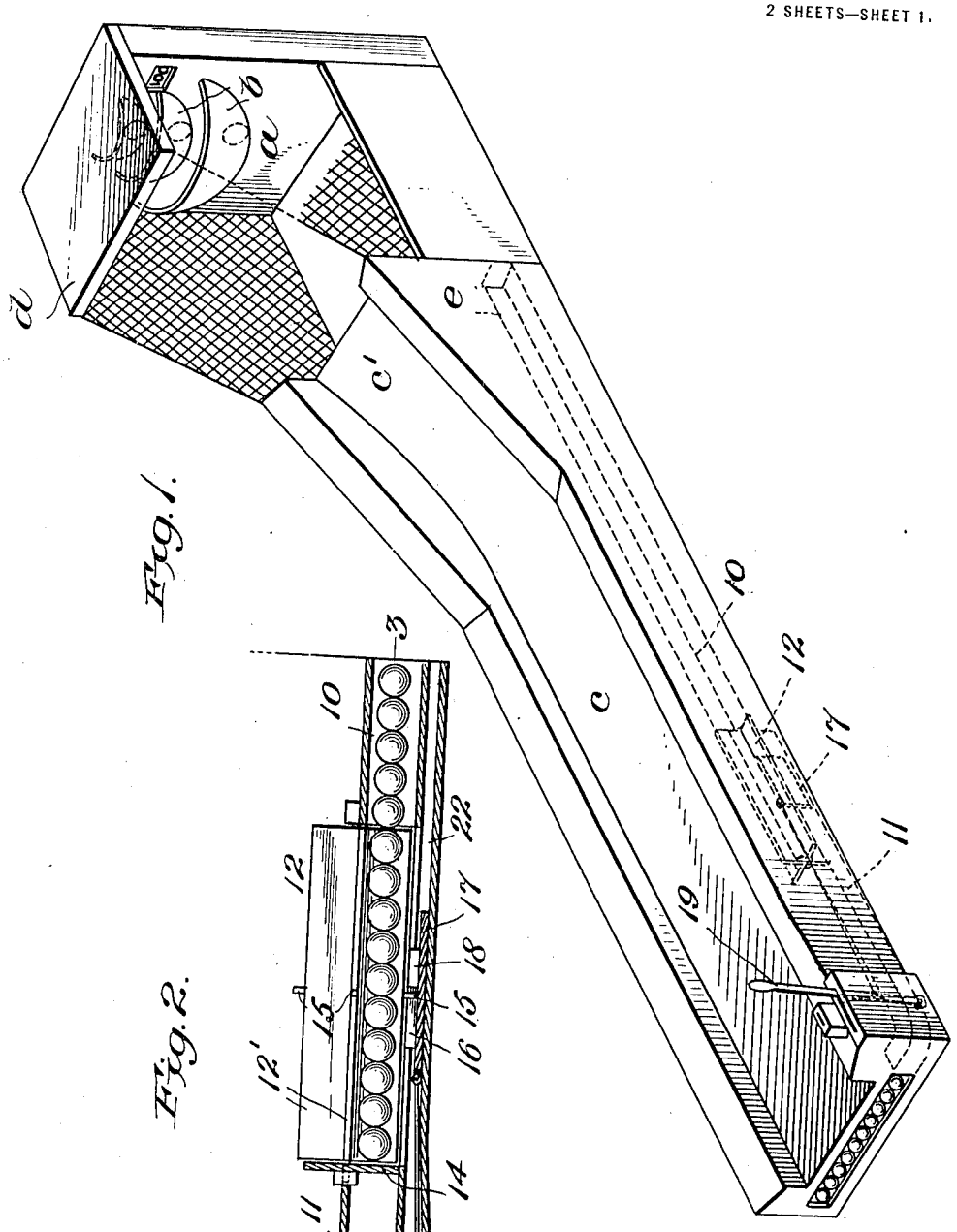


Fig. 1.

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

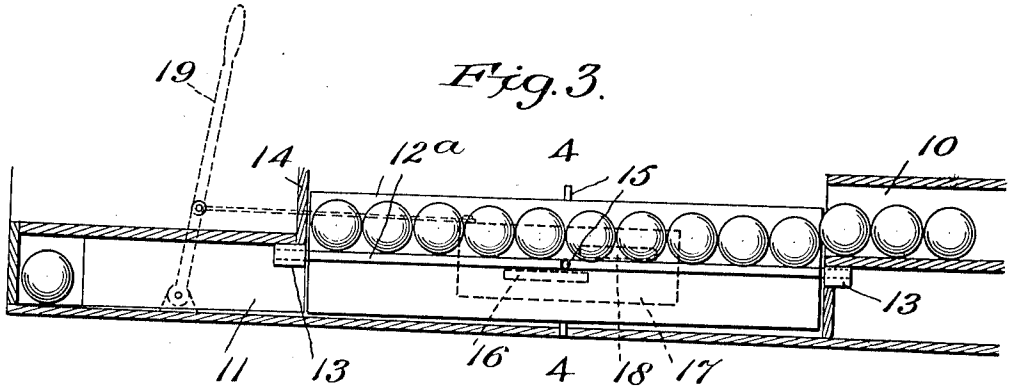


Fig. 4.

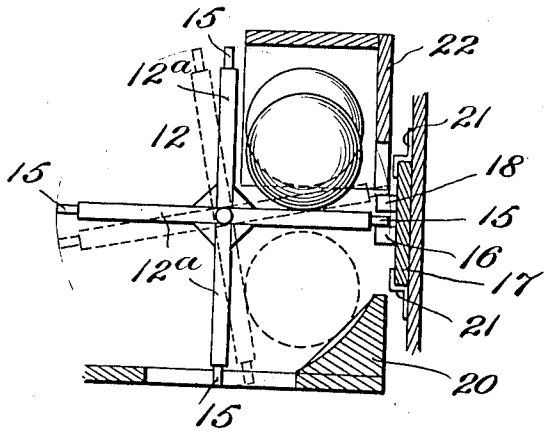


Fig. 5.

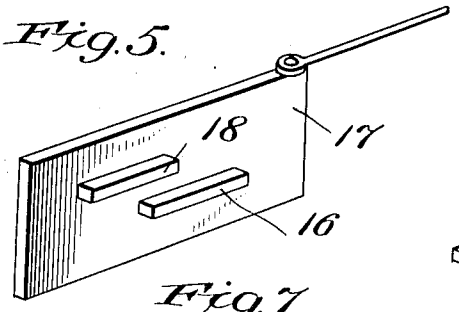


Fig. 7.

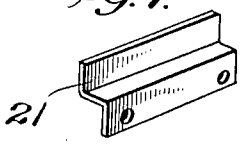
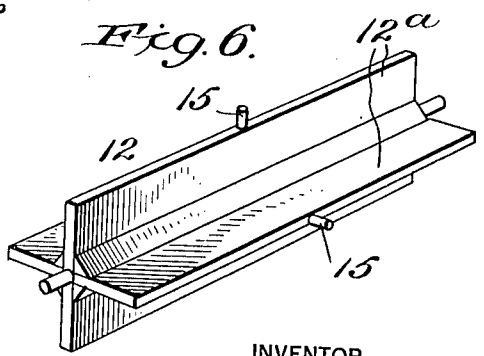


Fig. 6.



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GAME APPARATUS.

1,313,783. Specification of Letters Patent. Patented Aug. 19, 1919.

Application filed March 13, 1919. Serial No. 282,324.

To all whom it may concern:

Be it known that I, WILMUTH E. BLACKBURN, a citizen of the United States, residing at Summit, Union county, New Jersey, have invented certain new and useful Improvements in Game Apparatus, of which the following is a specification.

This invention relates to improvements in game apparatus, pertaining more particularly to means for controlling the activity of apparatus of this type.

The present invention pertains more particularly to apparatus in which the playing elements include individual structures or units—balls, for instance—having no secured relation to the remainder of the apparatus, and is designed to provide for prepayment before these units are made accessible for use in playing the game, the invention, in this respect, being of the type disclosed in my companion application filed July 10, 1918, Serial No. 244,258.

The general objects of the invention are to provide a construction and arrangement of parts which practically dispenses with attendance; which will render a definite number of units available to the player; which is simple and efficient in operation, durable in construction, and which can be manufactured and installed at a relatively low cost.

To these and other ends, therefore, the nature of which will be readily understood as the invention is hereinafter disclosed, said invention consists in the improved construction and combination of parts, hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the accompanying drawings, in which similar reference characters indicate similar parts in each of the views—

Figure 1 is a perspective view showing one form of game apparatus with which my present invention is adapted for use; Fig. 2 is a sectional view taken horizontally of the delivery end of a race-way and in which the invention is located; Fig. 3 is a vertical sectional view taken on line 3—3 of Fig. 2; Fig. 4 is a cross-sectional view taken on the line 4—4 of Fig. 3; and Figs. 5, 6 and 7 are perspective views showing various elements used.

The game apparatus illustrated is of the general type disclosed in my companion application filed August 21, 1917, Serial No. 187,327, Fig. 1 showing a target *a* carrying a plurality of goals or pockets *b*, the target being located at the rear of a runway *c* over which the balls or units are moved toward the target, said runway having its rear end upturned—curved or inclined—as at *c'*, causing the traveling ball to be trajected upwardly from the runway into contact with a baffle *d* located above the goals, the latter deflecting the delivered ball in the direction of the goals. The goals may have different goal values, and are preferably arranged in such manner as to permit it to enter into a ball race *e* common to the goals and located at one side of the runway, the balls collecting in the race-way.

In the present invention, the ball race or raceway is preferably located on two different planes—that is, there is a sharp change made at an intermediate point of the race length independent of any change which may result from the normal changes employed in producing the return movement of the balls to the playing end of the apparatus. To better indicate this change, I have indicated the race as divided into two main sections 10 and 11, these being spaced apart to receive the mechanism which controls the delivery of a predetermined number of balls from one section to the other. As shown in Fig. 3, section 10 is on a plane above and spaced from the plane of section 11 a distance approximating the diameter of one of the balls or units, although this distance may, of course, be varied as may be found desirable. The spacing between the respective ends of the sections is approximately equal to the distance required to receive a succession of balls corresponding to the number which is delivered to the player.

As shown, section 11 preferably is continued to the playing end of the apparatus, the race-way changing in direction to locate the

balls in a row transverse of runway *c*, for convenience to the player.

Within the space between the sections is located a pivoted ball-transfer 12, shown more particularly in Fig. 6, this being pivoted in suitable bearings 13 located in proper position relative to the sections. Transfer member 12 is shown as in the form of four wings 12^a radiating from the pivot axis at substantial right angles to each other, the wing length extending in the direction of length of the raceway, so that there is provided four open compartments spaced from each other by the wings which form two sides of each compartment, the remaining compartment sides of the member being open.

The axis of member 12 is so arranged that when the member is in normal position, one of said compartments has an open end in advance of the discharge end of section 10, the wing which forms the bottom of this compartment being preferably located on a plane slightly below that of the bottom of section 10, as indicated in Figs. 3 and 4. In this position, a ball in section 10 is free to enter the compartment, since it forms a continuation of that section, although on a lower plane. But while free entry is permitted into the compartment, the entering balls cannot reach section 11, since the wing on which the balls rest is above the plane of section 11. The opposite end of the compartment is closed by a stationary wall 14 projecting above the plane of section 11, so that the capacity of a compartment is limited to that of a succession of balls which will practically fill the length of the compartment.

Since the member 12 is simply pivotally mounted and therefore free to rotate on its axis, means are provided to maintain the wing in its supporting position until it is desired to make the compartment contents available for use. Any suitable means may be employed for the purpose, that shown in the drawings being exceedingly simple and therefore capable of use in such form as to withstand the rough usage to which devices of this character are subjected. The means illustrated is of the escapement type, each wing carrying a pin or lug 15 adapted to coöperate with a stop 16 mounted on a shiftable member 17, a second stop 18—positioned above and out of direct alinement with stop 16—coöperating with the latter in providing the escapement action. Member 17 is operatively connected to a suitable shifting member, shown as a pivoted lever 19 forming part of a coin-controlled device—which may, if desired, be connected up with the indicating mechanism for re-setting purposes, the oscillation of the lever in providing the forward and return movements serving to shift member 17 longitudinally through a cycle embodying the advance and return movements of the member.

The normal position is with pin 15 seated on stop 16. Hence, when lever 19 is moved toward the left in Fig. 3, stop 16 will be advanced out of a supporting position for the pin, and the weight of the balls contained in the upper compartment of Fig. 4, will force member 12 to start a rotating movement which will continue until the pin 15 of the succeeding wing passes into contact with stop 18—advanced into position by movement of member 17—preventing further rotating movement, placing member 12 in the position shown in dotted lines in Fig. 4, leaving the wings inclined to the horizontal and vertical, as shown in such dotted line position. This change has permitted the balls to move downward, so that when this preliminary stop position is reached, the shifted balls will be in the dotted line position of Fig. 4, resting on the inclined surface of a support 20 and held at an upward position by the wing which had formed the previous support for the balls.

This position of the balls may be maintained—depending upon the particular form and position of the entrance to section 11—until the lever is returned to its initial position, this return movement returning member 17 to normal position, moving stop 18 out of the path of the supported pin which permits further rotary movement until the pin reaches stop 16 which has returned to its supporting position, thus placing the parts in the full line position of Fig. 4, the shifted balls passing into section 11, the weight of the balls in the lower compartment serving, through the form of support 20 to provide pressure on the wing to provide the additional movement to the member from the preliminary stop position to the supporting position.

As will be understood from the dotted line position of Fig. 4, the supporting wing, in preliminary stop position does not, in the particular embodiment shown, obstruct the movement of the balls into the compartment—although it provides such an obstruction during the rotating movement to this position—and hence it is not necessary that the balls be retained in the lower compartment until the lever is returned, although this is preferred in order that the lever may be required to move to its coin-controlled position before the balls are made accessible. As will be understood, a single ball in the upper compartment will provide sufficient power to shift member 12 from preliminary stop to supporting position. In either case, the transfer action is completed by a stage operation.

Member 17 is shown as slidably mounted

in brackets 21, but this may obviously be varied.

A suitable casing structure 22 is provided for completing the general compartment formation for the balls being supported, and it will be understood that suitable provision is made for the free movement of the wings and pins in their rotatory movements excepting as provided by the escapement-forming structure.

As will be understood, member 12 is movable in one direction only, and that this movement is provided by the weight of the balls. Hence, lever 19 is subjected to no heavy strains—the weight of the balls being normally carried by member 17—and no requirement is had of positively shifting the balls by the movement of the lever, thus relieving the lever operator of the weight of the balls, the only resistance being provided by the friction of the pins 15 on the moving stop, this being reduced to a minimum by the use of the usual roller structure on the pins.

While I have herein shown and described a preferred construction, it will be readily seen that changes or modifications may be found desirable or essential in meeting the various exigencies of use, and I desire to be understood as reserving the right to make any and all such changes or modifications as may be found desirable or essential insofar as the same may fall within the spirit and scope of the invention as expressed in the accompanying claims, when broadly constructed.

Having thus described my invention, what I claim as new is:

1. In game apparatus wherein a plurality of individual units are employed in playing the game, mechanism for rendering a predetermined number of units accessible to the player, said mechanism including a raceway adapted to retain the units inaccessible excepting at a pre-determined point and having portions extending on independent planes, and means rendered active by the weight of said units for transferring the desired units from one portion to the other of the raceway.

2. In game apparatus wherein a plurality of individual units are employed in playing the game, mechanism for rendering a predetermined number of units accessible to the player, said mechanism including a raceway adapted to retain the units inaccessible excepting at a pre-determined point and having portions extending on independent planes, and means rendered active by the weight of said units for transferring the desired units from one portion to the other of the raceway, said means being operative in advance of such predetermined point.

3. Apparatus of the character specified in claim 1 characterized in that the apparatus includes mechanism for controlling the activity of the transfer means.

4. Apparatus of the character specified in claim 3 characterized in that the control mechanism includes a member shiftable between two extremes of movement, said member being active in the control of transfer action when in each position.

5. Apparatus of the character specified in claim 3 characterized in that the control mechanism includes a member shiftable between two extremes of movement and having means coöperative with the transfer means and rendered active by a cycle of member-shifting movements to complete the transfer action.

6. Apparatus of the character specified in claim 3, characterized in that the transfer means and the control mechanism include coöperative elements operative in the transfer operation with the latter operation completed in more than a single stage.

7. Apparatus of the character specified in claim 1 characterized in that the transfer means is movable in one direction in completing the transfer and its location in position to receive the succeeding units.

8. Apparatus of the character specified in claim 1 characterized in that the transfer means includes a rotatable member having compartments for receiving the units from one portion of the raceway, the transfer movement being operative to shift a loaded compartment into discharge position relative to the other raceway portion and locate another compartment in unit-receiving position.

9. Apparatus of the character specified in claim 8 characterized by the rotatable member having a plurality of wings radiating from the axis of rotation to produce the opposite side walls of compartments, the opposite ends of each compartment being open.

10. Apparatus of the character specified in claim 9, characterized in that the axis of rotation of the member is positioned to locate a wing on a plane below the plane of the raceway portion from which the units are delivered to a compartment to cause such wing to form the bottom of the loaded compartment, the member transfer movement positioning such wing in delivery position relative to the other raceway portion.

11. Apparatus of the character specified in claim 9 characterized in that the apparatus includes mechanism for controlling the rotation of said member to locate adjacent wings as the adjacent side walls of the compartment to which units are delivered.

12. Apparatus of the character specified in claim 11 characterized in that the wings

each carry an element coöperative with the control mechanism in positioning the wings in loading position.

13. Apparatus of the character specified in claim 11 characterized in that the control mechanism includes a shiftable member carrying a plurality of stop faces each of which is active in the positioning of a wing in loading position.

14. Apparatus of the character specified in claim 13, characterized in that the stop faces are positioned to be individually and successively operative with a wing element in the positioning movement.

In testimony whereof I have signed my name to this specification this 11th day of March, 1919.

WILMUTH E. BLACKBURN.