

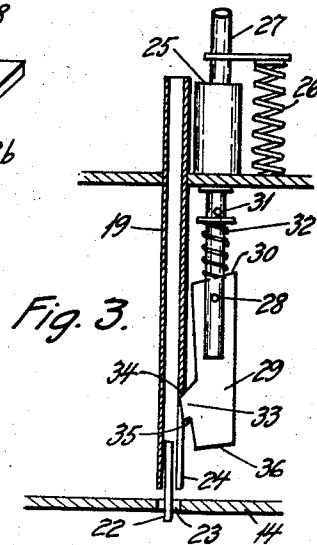
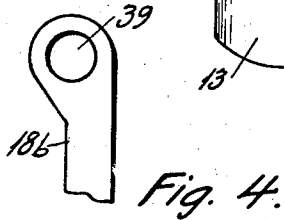
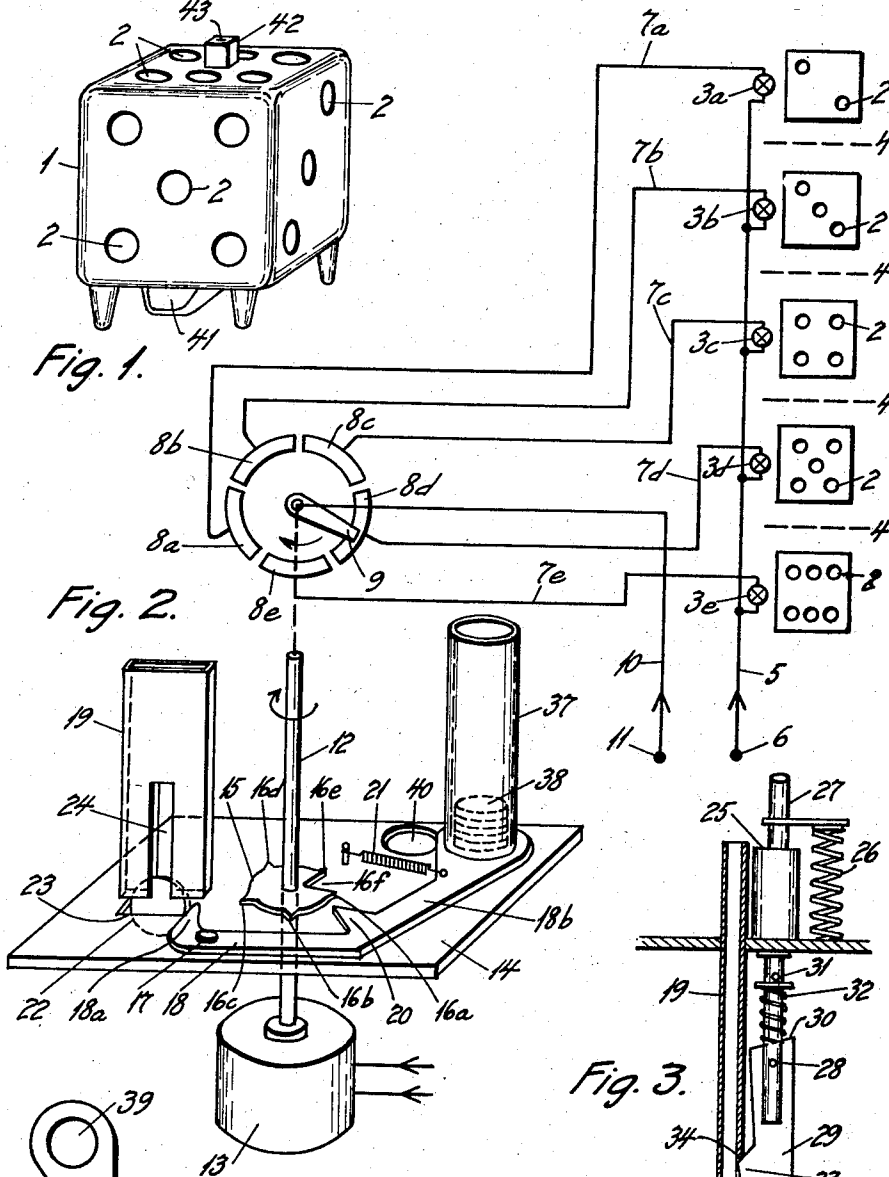
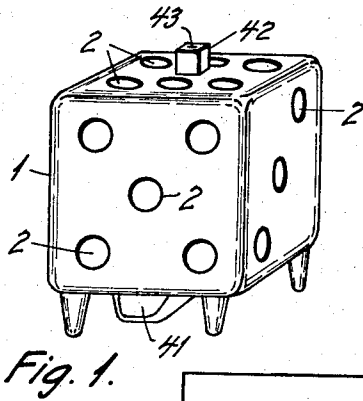
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GAME APPARATUS

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2,881,892

GAME APPARATUS

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8 Claims. (Cl. 194—17)

The present invention relates to a game apparatus. This game apparatus comprises a die-shaped casing having dots on the die faces, which dots may be illuminated by means of electric lamps. The apparatus moreover comprises a movable contact device by means of which the electric lamps may be lighted and caused to illuminate the dots on the different die faces in rapid succession, and manually operable braking means for stopping the contact device in a number of positions corresponding to the number of die faces having dots.

The competition moment when using the game apparatus consists therein that the player should try to actuate the braking device during the rapid change in the illumination of the dots on the different die faces at such a moment that the contact device is stopped in a position corresponding to the illumination of the dots on a particular die face, such as the face provided with the maximum number of dots.

The game apparatus may be combined with a token or prize issuing device operated to issue a token or a prize if the player succeeds to stop the contact device in the predetermined position.

The contact device preferably consists of a rotatable wiper driven by an electric motor and cooperating with a number of fixed contacts, and the braking means may consist of a spring-actuated lever cooperating with a disc which is secured to the shaft of the motor and provided with a brake shoe.

The game apparatus according to the present invention furthermore may be of such a character that in order to start the same and cause the contact device to function it is necessary to insert a coin into the same. In a temporary ready-position said coin can be adapted to keep the braking device inoperative, and when the coin is removed from said ready-position the braking lever will be rapidly moved into the braking position by its spring.

In the accompanying drawings:

Fig. 1 is a perspective view of a preferred embodiment of the apparatus according to the invention.

Fig. 2 is a perspective view of the main parts of the mechanism and shows the electric circuit diagram.

Fig. 3 is a longitudinal sectional view through the coin channel of the apparatus.

Fig. 4 shows a detail.

The apparatus (Fig. 1) has a cube-shaped casing 1 provided on its four vertical side faces and on its upper face with holes 2 corresponding to the dots on a die, e.g. from two to six holes (see also Fig. 2). Said holes may suitably be provided with windows of a translucent and possibly coloured material, such as a plastic material or glass, and the windows may be provided with advertising text or the like. Behind each of the cube walls one or more electric lamps 3a—3e are located, said lamps being screened from each other by means of suitable screen members 4 diagrammatically shown in Fig. 2, in such manner that each lamp illuminates only the cube wall belonging to the same.

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One terminal of each lamp 3a—3e is connected through a lead 5 to one terminal 6 of a current source and the other terminals of the lamps are each through separate leads 7a—7e connected to fixed contacts 8a—8e in a switch or contact device the rotatable wiper 9 of which is connected to the other terminal 11 of the current source through a lead 10.

The rotatable wiper 9 is secured to the shaft of an electric motor 13, preferably a synchronous motor which is permanently connected to its current source.

When the motor shaft 12 rotates in the direction indicated by the arrow (Fig. 2), the wiper 9 is moved over the fixed contacts 8a—8e with the result that the lamps 3a—3e behind the walls of the cube 1 are lighted and extinguished in a predetermined sequence and the windows or openings 2 in the corresponding walls of the cube 1 are momentarily illuminated. The speed of the shaft 12 may e.g. be chosen in such a way that each lamp 3a—3e is lighted and extinguished 100 times per minute.

The apparatus shown is of such character that in order to allow its use it is necessary to insert a coin or similar article into it. After the coin has been inserted, the shaft 12 can be started so that the lamps 3a—3e are caused to illuminate the windows or openings 2 in the different walls of the cube in rapid succession. The apparatus is furthermore provided with manually operable means for stopping the shaft 12 in different positions. The task of the player is to try to stop the shaft in a position corresponding to the illumination of a particular of said lamps 3a—3e, e.g. the lamp 3e illuminating the upper cube face having six windows or openings 2.

Furthermore the apparatus may be of such character that if the player succeeds to stop the shaft 12 in said particular position, a device will be actuated which automatically supplies a token or a prize, e.g. a token entitling to certain advantages.

The mechanism for starting and stopping the shaft 12 of the motor is constructed as follows:

The motor shaft 12 extends through a horizontal supporting plate 14 secured in the cube 1 and carries at the upper face of said plate a circular disc 15 provided with five projecting triangular teeth 16a—16e and with a triangular recess 16f between two of said teeth.

A two-armed lever 18 is pivotally mounted on the plate 14 at 17, one arm 18a of said lever being situated close to a coin channel 19 on said plate 14 and the other arm 18b being provided with a pointed extension 20 which serves as a brake shoe and being actuated by a spring 21 which is fixed on the plate 14 and tends to turn the lever 18 in an anti-clockwise direction as viewed in Fig. 2.

The lower end of the coin channel 19 terminates a short distance above the upper face of the plate 14, and as long as there is no coin in said channel the spring 21 is free to turn the lever 18 in the anti-clockwise direction so that the brake shoe 20 engages the periphery of the circular disc 15 and holds the shaft 12 by friction against rotation in spite of the motor 13 being energized.

When a coin 22 is inserted into the coin channel 19 and is brought into the ready-position shown in Fig. 2 by means of a device which will be described more in detail hereinafter, arm 18a of the lever 18 is actuated by the edge of the coin and is turned in the clockwise direction against the action of the spring 21 to the position shown in Fig. 2 in which the brake shoe 20 is out of engagement with the circular disc 15 so that the latter is free to rotate. In said position the motor 13 may accordingly drive the shaft 12 together with the movable wiper 9 of the contact device which in the manner previ-

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ously described causes the different electric lamps 3a—3e to be energized in rapid succession.

If by an impact the coin 22 from the ready-position shown in Fig. 2 is caused to fall down through a coin hole 23 provided in the plate 14 under the coin channel, the lever 18 will be released so that the spring 21 rapidly turns the same in the anti-clockwise direction from the position shown in Fig. 2 into a position in which the brake shoe 20 engages the circular disc 15 and stops the shaft 12.

Three different cases are conceivable:

(1) The brake shoe 20 may hit the periphery of the disc 15 between two teeth 16a—16e (except in the recess 16f). In this case the shaft 12 will stop in a position with the movable wiper 9 engaging the corresponding fixed contact 8a—8d.

(2) The brake shoe may hit the point of a tooth 16a—16e. Owing to the fact that the teeth as well as the brake shoe 20 have a pointed shape, the shaft 12 cannot be stopped in this position but the brake shoe will slide along one of the side faces of the tooth causing a corresponding slight turning movement of the shaft 12 until it engages a section of the circular periphery of the disc 15, the movable wiper 9 being then again stopped in engagement with the fixed contact 8a—8d that corresponds to said section of the periphery of the disc. Since the teeth 16a—16e are so arranged that the pointed brake shoe 20 will hit the same in positions where the movable wiper 9 engages two fixed contacts 8a—8e simultaneously, i.e. when it passes from one contact to the next one, the wiper can never stop in such position but will slide along the tooth in one direction or the other so as finally to engage a section of the periphery of the disc when only the particular lamp 3a—3d corresponding to that section is lighted.

(3) The brake shoe may snap into the recess 16f or it may hit one of the teeth 16a and 16e, respectively on opposite sides of the recess 16f and slide along the same into said recess. The shaft 12 is then stopped in a position in which the movable wiper 9 engages the fixed contact 8e corresponding to the lamp 3e being lighted for illumination of the upper face of the cube 1 with six dots 2.

In the two first-mentioned cases (1) and (2) the lever 18 will move only through a relatively small angle in the anti-clockwise direction from the position shown in Fig. 2 until it is stopped by the periphery of the disc 15. In the last-mentioned case (case 3), on the other hand, corresponding to stopping the shaft in a position where the wiper 9 is in engagement with the contact 8e causing energization of the lamp 3e behind the upper face of the cube, the turning movement of the lever is much greater. Said greater movement can be used for actuating a token or prize issuing device or the like.

When a coin 22 is inserted into the channel 19 it drops to the bottom thereof where it will be loosely supported at two points i.e. by the left hand edge of the coin hole 23 (Fig. 2) and by the lever arm 18a, the brake shoe 20 of the lever 18 being either in contact with the periphery of the disc 15 or in engagement with the recess 16f.

A vertical slot 24 is provided in the wall of coin channel 19. Adjacent this channel 19 a push rod 27 is arranged in a sleeve 25 and movable therein against the action of a spring 26. At its lower end the push rod carries a blade-shaped member 29 turnable on a pivot 28. The blade-shaped member 29 has a bevelled upper edge 30. Between this edge 30 and a pin 31 secured to the push rod 27 there is arranged a helical spring 32 which in cooperation with the bevelled edge 30 tends to turn the blade-shaped member 29 in the clockwise direction as viewed in Fig. 3 so that in the upper inoperative position of the blade-shaped member a lateral lip 33 on the same which protrudes towards the coin channel 19, engages the upper edge 34 of the slot 24 therein, as shown. When a coin 22 has been inserted into the channel it will

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occupy the position shown in Fig. 3. If now the push rod 27 is depressed, the blade-shaped member 29 will be turned into the slot 24. The lower shoulder 35 of the lip 33 will engage the coin and move it down into the coin hole 23 in which it is gripped between the left hand edge of said hole and the lever arm 18a (the position shown in Fig. 2). The downward movement of the rod 27 is stopped by the lower edge 36 of the blade striking against the plate 14.

At this movement of the coin 22 the lever 18 will be turned in the clockwise direction to the position shown in Fig. 2 with the brake shoe out of engagement with the disc 15 so that the motor 13 is free to rotate the shaft 12 and the wiper 9 for causing the lamps 3a—3e to be lighted and extinguished in rapid succession.

Upon a new pushing down of the rod 27 which has reassumed its initial position under the action of the spring 26, the blade-shaped member 29 is turned so far into the slot 24 that the lower edge 36 thereof engages the coin and pushes it from the ready-position shown in Fig. 2 down through the coin hole 23, the lever 18 being then released so as to stop the shaft 12 by means of its brake shoe 20.

As already mentioned, the greater turning movement of the lever 18 when the brake shoe 20 engages the recess 16f may be used for actuating a token or prize issuing device or the like.

A simple token issuing device is shown in Fig. 2. As appears from said figure, a cylindrical magazine 37 for round tokens 38 is located at a short distance above the plate 14. The arm 18b of the lever 18 extends below said magazine and is provided with a circular opening 39 giving place for a token 38, as shown in Fig. 4.

When a coin 22 is inserted into the coin channel 19 and so moved to the ready-position shown in Fig. 2 by means of the blade-shaped member 29, the lever 18 is turned in the clockwise direction so that the opening 39 of the lever arm 18b will be situated below the magazine 37 allowing a token 38 to drop into said opening.

When thereafter the coin 22 is released from the ready-position by means of the push rod and drops through the coin opening 23, the lever 18 will turn in the anti-clockwise direction under the action of its spring 21. If then the shaft 12 is stopped in a position with the brake shoe 20 in engagement with the recess 16f of the disc 15, the lever arm 18b will be turned so far that the opening 39 in the same will be moved into alignment with a round discharge hole 40 for tokens provided in the plate 14 so that the token drops through said hole. On the other hand, if the brake shoe 20 hits the periphery of the disc 15 the turning movement will be insufficient for the discharge of the token and the lever arm 18b together with the token will return to the position shown in Fig. 2 the next time when a coin 22 is moved to the ready-position.

The discharge opening 40 is connected to a cup-shaped member 41 on the bottom of the cube 1 through a suitable channel (not shown) and thus delivered to the player.

The push rod 27 is connected to a press button 42 arranged on the top of the cube 1. Said button may be provided with a coin slot 43 which is connected to the coin channel 19 on the plate 14 through a channel or a guide member (not shown).

Modifications of the above described device are conceivable within the scope of the claims. The movable wiper 9 can e.g. be secured to a shaft supporting a fly-wheel which can be started manually.

What I claim is:

1. In a game apparatus, a die-shaped casing provided with dots on the die faces, electric lamps for illuminating said dots, circuits for supplying current to said lamps, a contact device comprising a number of fixed contacts and a rotatable wiper cooperating therewith for controlling said circuits, an electric motor having a shaft attached to said wiper for rotating the same so as to cause the lamps on the different die faces to be momentarily lighted in

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rapid succession, a brake disc secured to said motor shaft, a supporting plate within said casing, a spring-actuated lever pivotally mounted on said supporting plate and provided with a brake shoe for cooperation with said brake disc, said supporting plate being provided with a coin opening adjacent part of said lever, a coin channel extending from the exterior of said casing to a point near said coin opening, through which coin channel a coin can be inserted into the coin opening in order to maintain said lever in an inoperative position against the action of its spring, and means manually operable from the exterior of the casing to push a coin into the coin opening and simultaneously into engagement with said part of said lever to hold said lever in inoperative position and to remove the coin from the coin opening so as to release said lever and allow its spring to apply the brake shoe against the brake disc in order to stop the motor and the wiper.

2. A game apparatus as claimed in claim 1, in which said means for removing the coin from the coin opening consist of a spring-actuated plate slidably and pivotally arranged in a slot in the coin channel.

3. In a game apparatus, a die-shaped casing provided with dots on the die faces, electric lamps for illuminating said dots, circuits for supplying current to said lamps, a contact device comprising a number of fixed contacts and a rotatable wiper cooperating therewith for controlling said circuits, and an electric motor having a shaft attached to said wiper for rotating the same so as to cause the lamps on the different die faces to be momentarily lighted in rapid succession, a brake disc secured to said motor shaft, a supporting plate within said casing, a spring-actuated lever pivotally mounted on said supporting plate and provided with a brake shoe for cooperation with said brake disc, said supporting plate being provided with a coin opening adjacent part of said lever, a coin channel extending from the exterior of said casing to a point near said coin opening, through which coin channel a coin can be inserted into the coin opening in order to maintain said lever in an inoperative position against the action of its spring, means manually operable from the exterior of the casing for pushing a coin into the coin opening and simultaneously into engagement with said part of said lever to hold said lever in inoperative position and for removing the coin from the coin opening so as to release the lever to move the brake shoe into engagement with the brake disc in order to stop the motor and the wiper, and means for preventing stopping of said wiper in a position where it engages two fixed contacts simultaneously.

4. A game apparatus as claimed in claim 3, in which in order to prevent stopping of the wiper in a position where it engages two fixed contacts simultaneously, the brake disc secured to the motor shaft is provided with a number of pointed teeth, corresponding to the number of interspaces between the fixed contacts, the brake shoe being also pointed, said teeth being adapted to be hit by the brake shoe moved into braking position during the periods when the movable wiper engages two fixed contacts simultaneously, the brake shoe causing by its sliding along the side surfaces of said teeth a slight additional turning movement of the wiper so as to move the same to a position where it engages only one fixed contact.

5. In a game apparatus, a die-shaped casing provided with dots on the die faces, electric lamps for illuminating said dots, circuits for supplying current to said lamps, a contact device comprising a number of fixed contacts and a rotatable wiper cooperating therewith for controlling said circuits, an electric motor having a shaft attached to said wiper for rotating the same so as to cause the lamps on the different die faces to be momentarily lighted in rapid succession, a brake disc secured to said motor shaft, a supporting plate within said casing, a spring-actuated lever pivotally mounted on said supporting plate and provided with a brake shoe for cooperation with said brake disc, said supporting plate being provided with a coin

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opening adjacent part of said lever, a coin channel extending from the exterior of said casing to a point near said coin opening, through which coin channel a coin can be inserted into the coin opening in order to maintain said lever in an inoperative position against the action of its spring, means manually operable from the exterior of the casing for pushing a coin into the coin opening and simultaneously into engagement with said part of said lever to hold said lever in inoperative position and for removing the coin from the coin opening in order to release the lever to move the brake shoe into engagement with the brake disc in order to stop the motor and the wiper, said brake disc being provided at a point of its periphery corresponding to the illumination up of the dots on a particular die face, with a recess for the brake shoe so that the lever makes a large movement at this point, and a magazine for tokens mounted within said casing and adapted to cooperate with the lever for discharging a token from the apparatus when the lever makes a large turning movement.

6. A game apparatus according to claim 5, in which said magazine consists of a tubular member located at some distance above said supporting plate, the latter being provided with a discharge hole laterally displaced from the magazine, and the lever supporting the brake shoe being provided with an opening which is situated below said magazine in the inoperative position of the lever, so as to enable a token to drop into said opening and to be moved into alignment with the discharge hole for discharging the token when the lever makes a large turning movement.

7. In a game apparatus, a die-shaped casing provided with dots on the die faces, electric lamps for illuminating said dots, circuits for supplying current to said lamps, a contact device comprising a number of fixed contacts and a rotatable wiper cooperating therewith for controlling said circuits, an electric motor having a shaft attached to said wiper for rotating the same so as to cause the lamps on the different die faces to be momentarily lighted in rapid succession, a brake disc secured to said motor shaft, a supporting plate within said casing, a spring-actuated lever pivotally mounted on said supporting plate and provided with a brake shoe for cooperation with said brake disc, said supporting plate being provided with a coin opening adjacent part of said lever, a coin channel extending from the exterior of said casing to a point near said coin opening, through which coin channel a coin can be inserted into the coin opening in order to maintain said lever in an inoperative position against the action of its spring, a member manually operable from the exterior of the casing for pushing a coin into the coin opening and simultaneously into engagement with said part of said lever to hold said lever in inoperative position and for removing the coin from the coin opening so as to release the lever to move the brake shoe into engagement with the brake disc for stopping the motor and the wiper, a spring actuated press button mounted in one of the die faces and attached to said member, said press button being provided with a coin slot, and coin guiding means extending between said coin slot and said coin channel.

8. In a game apparatus, a die-shaped casing provided with dots on the die faces, electric lamps for illuminating said dots, circuits for supplying current to said lamps, a contact device comprising a number of fixed contacts and a rotatable wiper cooperating with said fixed contacts for controlling said circuits, an electric motor having a shaft attached to said wiper for rotating the same so as to cause the lamps on the different die faces to be momentarily lighted in rapid succession, a brake disc secured to said motor shaft and provided with a number of pointed teeth corresponding to the number of interspaces between the fixed contacts, a spring-actuated lever pivotally mounted in the casing and provided with a brake shoe having a pointed end for cooperation with said brake disc, and manually operable means for moving said lever

to hold said brake shoe away from said brake disc and for releasing said lever to move the brake shoe into engagement with the brake disc to stop the rotation of said motorshaft, said pointed teeth on the brake disc and said pointed end of the brake shoe preventing stoppage of the motor in a position in which the movable wiper engages two fixed contacts simultaneously, the brake shoe causing by its sliding movement along one of the side surfaces of said teeth a slight additional turning move-

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ment of the wiper so as to move the same to a position where it engages only one fixed contact.

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