July 13, 1926. 1,592,644

F. PRINA

COIN CONTROLLED INDICATOR

Original Filed March 22, 1920 3 Sheets-Sheet 1

Fig. 1.

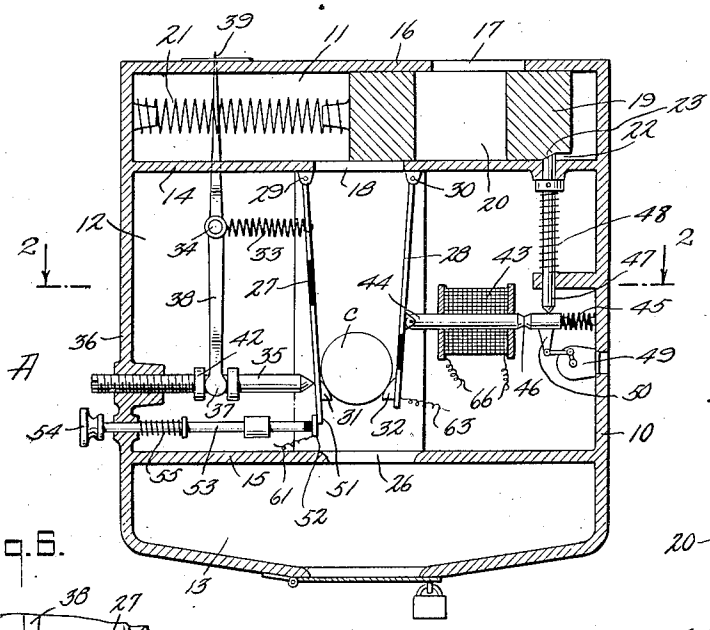


Fig. 6.

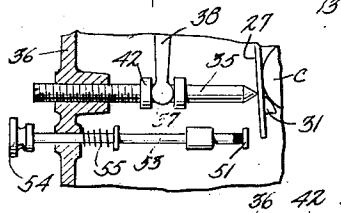


Fig. 2.

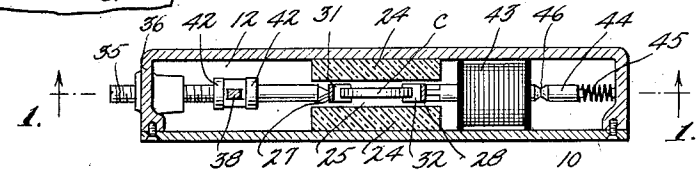


Fig. 5.

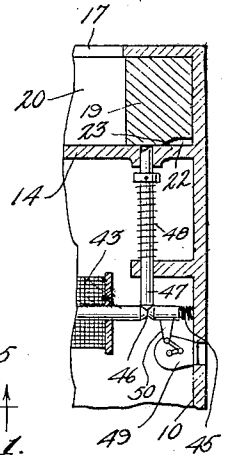


Fig. 7.

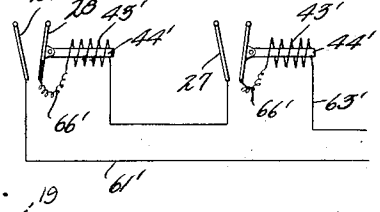


Fig. 3.

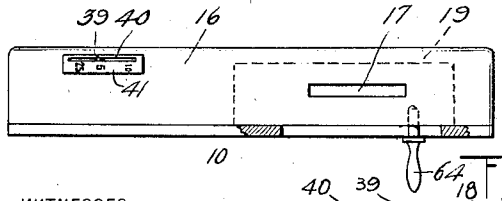
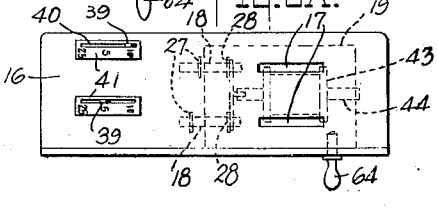


Fig. 6A.



WITNESSES

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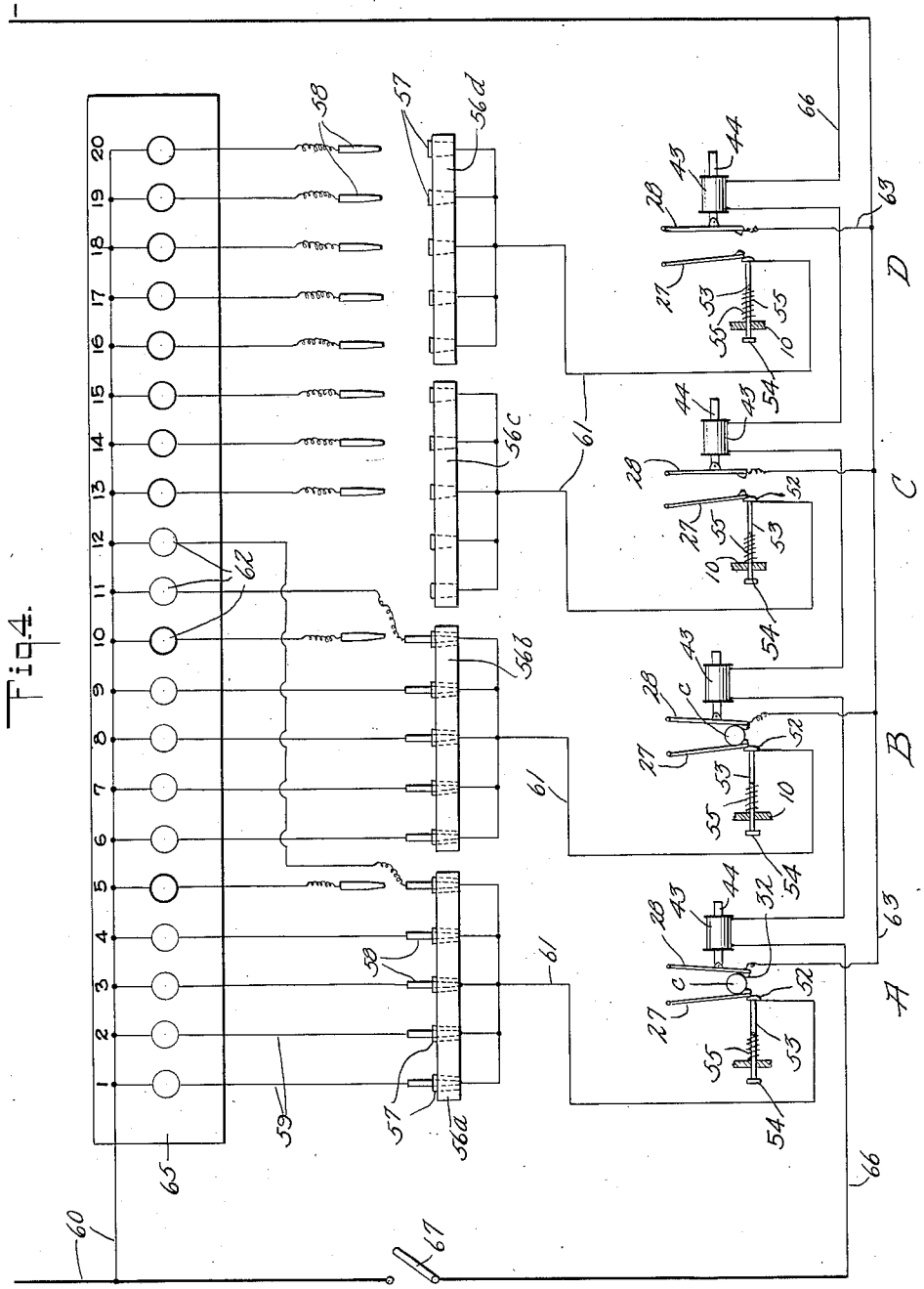
July 13, 1926. 1,592,644

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Original Filed March 22, 1920 3 Sheets-Sheet 2

Fig.4.



WITNESSES

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July 13, 1926. 1,592,644

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Original Filed March 22, 1920 3 Sheets-Sheet 3

Fig.8.

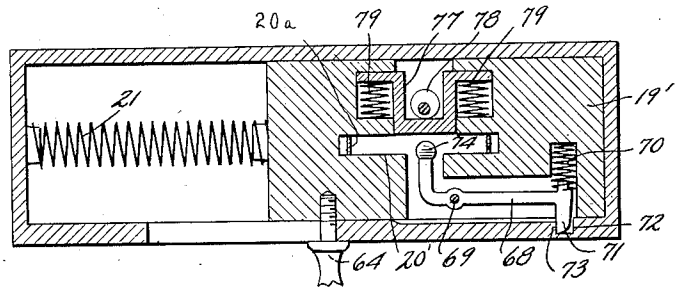


Fig.9.

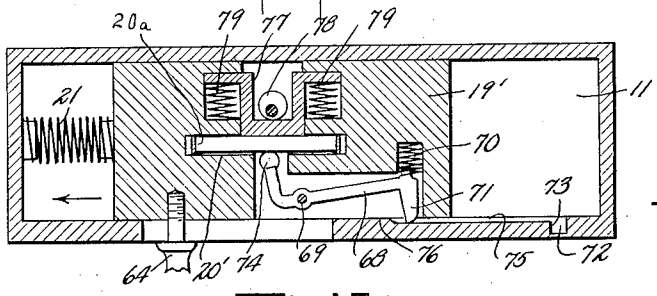


Fig.12.

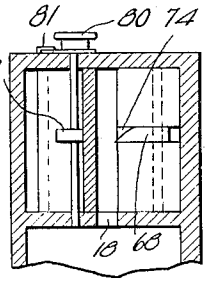


Fig.10.

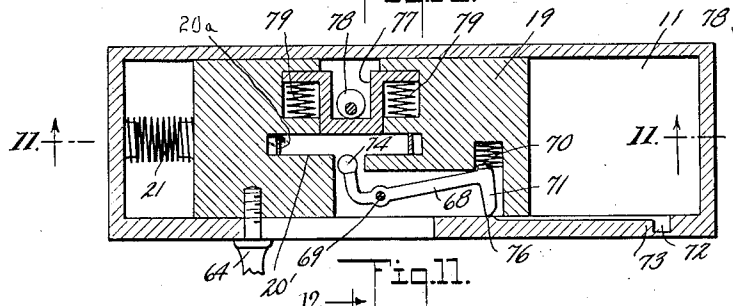


Fig.11.

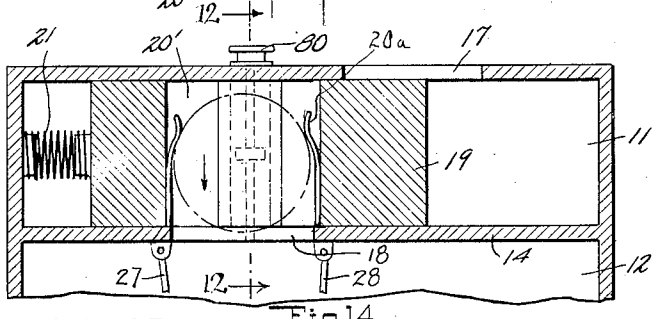


Fig.13.

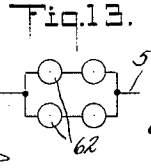


Fig.14.

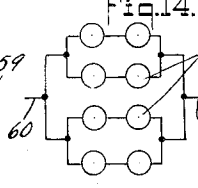
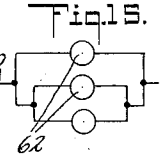


Fig.15.



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UNITED STATES PATENT OFFICE.

FRANK PRINA, OF JERSEY CITY, NEW JERSEY.

COIN-CONTROLLED INDICATOR.

Application filed March 22, 1920, Serial No. 367,924. Renewed May 22, 1922. Serial No. 562,845.

This invention relates to coin controlled apparatus and has particular reference to such apparatus applicable especially to indicating means.

Among the objects of the invention is to provide for an amusement device indicator a series of players' stations each of which is equipped with a specially designed coin controlled device.

A further object of the invention is to provide a coin controlled apparatus for any desired purpose, said apparatus being provided with special means under the control of the player or operator to enable him to make certain special observations while at the same time being provided with means beyond this control for the disposition or control of the coin or check.

With the foregoing and other objects in view the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed or suggested herein, still for the purpose of illustrating a practical embodiment thereof reference is had to the accompanying drawings, in which like reference characters designate the same parts in the several views, and in which—

Figure 1 is a vertical section on the line 1—1 of Fig. 2.

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1.

Fig. 3 is a plan view of the same mechanism.

Fig. 4 is a diagram showing the application of a series of my coin controlled devices to an amusement apparatus indicating system and the means for controlling the delivery of the coins from active position.

Fig. 5 is a detail view indicating the changed position of the magnet armature from that of Fig. 1.

Fig. 6 is a view of the manually controlled switch in electrically open position.

Fig. 6[a] is a detail of a modified form of coin receptacle showing a provision for a plurality of coins operating simultaneously through the same coin box.

Fig. 7 is a diagram indicating a modified arrangement of automatic coin release.

Fig. 8 is a horizontal section of a slightly modified form or further development of the coin slide shown in Fig. 1, the slide being shown in normal locked position.

Fig. 9 is a similar view showing the slide being moved toward the left.

Fig. 10 is a similar view showing the final position of the slide and with the trigger in position to release the coin.

Fig. 11 is a vertical sectional view on the line 11—11 of Fig. 10.

Fig. 12 is a vertical transverse section on the line 12—12 of Fig. 11.

Figs. 13, 14 and 15 are detail views in diagram indicating variations in arrangement of indicating members.

Referring now more specifically to the drawings I show a check controlled apparatus comprising a casing 10 shown as generally rectangular in form and having three chambers 11, 12, and 13 with horizontal partitions 14 and 15 between adjacent chambers. The uppermost wall 16 or top of the casing is provided with an inlet slot 17 for the coin or check *c* and this chamber 11 may be regarded as a transfer chamber. The horizontal partition 14 bounding the transfer chamber on the bottom is provided with a coin slot 18 in front of the slot 17. Fitted slidably in the chamber 11 is a slide or transfer member 19 having a vertical slot 20 adapted to register with the slots 17 and 18 in succession, first to receive the coin within the slot 20 and then to deliver it therefrom through the slot 18 into the switch chamber or chute 12. The slide 19 is normally urged rearward by means of an expansion spring 21 arranged between the front end thereof and the front end wall of the transfer chamber. The slide therefore in this position obstructs the way to and through the slot 18 except by the means provided for such access. The slide is so fitted vertically in the transfer chamber as to be held from vertical movements, but at its rear end is recessed at 22 to form a slight clearance terminating in front with a beveled or cam shoulder 23.

Within the switch chamber 12 is arranged a coin chute comprising side walls 24 of any suitable non-conducting material with a space 25 between them leading to a delivery slot 26 through which the coins are eventually delivered into the bottom chamber or

receptacle 13. The path of the coin however through the chute is obstructed by means of two contact carriers 27 and 28 pivoted respectively at the upper end of the chute at the points 29 and 30 and adapted to swing forward and rearward in the space 25. These carriers have attached to their lower ends a pair of spaced contacts 31 and 32 respectively adapted to be bridged by the coin *c* or circuit connector. The carrier 27 is normally urged forward by a suitable means such as a contractile spring 33 anchored on a fixed pivot pin 34 extending across the front portion of the chamber 12. This forward movement of the carrier 27 is limited by an adjustable screw 35 accessible and adjustable through any wall of the casing, shown herein as the front wall 36 thereof. This screw is embraced by a yoke 37 at the lower end of the lever 38 pivoted on the pivot 34 and having a finger or pointer 39 projecting upward past the spring 21 and through the top wall 16 and a slot 40 formed in the indicator plate 41. The yoke portion 37 of the lever 38 is confined between two shoulders 42 so that the horizontal adjustment of the screw in either direction will cause a corresponding turning of the lever around the pivot 34. The pointer 39 will thus indicate on the plate 41 the adjustment of the carrier 27 and contact 31 with respect to the opposite contact 32 to accommodate a coin of a certain diameter and hence denomination according to the desire of the manager.

The movements and position of the opposite carrier 28 are controlled as follows: 43 is a magnet having a core 44 pivoted at its front end to the carrier 28 and slidable rearward against the force of an expansion spring 45 when the magnet is energized. The body of the core is provided back of the magnet with a notch 46 into which a locking pin 47 is adapted to be forced when the core is in its rear position. This forcing downward of the pin 47 is effected by means of the beveled shoulder 23 of the slide 19 by virtue of the expansion of the spring 21, the force of this spring 21 being greater than that of the spring 48 surrounding the pin and tending to lift it out of said notch. When the core 44 is forward it holds the pin 47 elevated and so prevents the spring 21 from moving the slide rearward to its maximum distance. When a coin has been admitted and the slide is moved to transfer it to the chute the core and movable carrier will occupy the position of Fig. 1, and so the plunger 47 will be held up and act to prevent a second coin from being admitted into the slot 20 before the first coin is disposed of. The holding force of the lower end of the pin 47 in the notch 46 is superior to the expansive force of the spring 45.

Any suitable counting or recording device such as indicated at 49 may be provided to make a record of the number of reciprocations of the core 44 and hence the number of coins delivered into the receptacle 13 as a result of such reciprocations. The actuation of this counter is shown as being effected by means of direct connections 50 with the core 44.

The lower end of the carrier 27 may be regarded as a contact point 51 with which normally engages a movable contact 52 on the rear end of a pull rod 53 guided through the front wall 36 of the casing and having a finger piece 54 thereon. The player may pull forward on this rod against the force of an expansion spring 55 to break the circuit at the contact points 51 and 52. For an illustration of the operation and advantages of the coin controlled mechanism above described reference is had to the accompanying diagram, Fig. 4, which shows a plurality or series of coin controlled devices at stations A, B, C and D, but it will be understood that the number of these stations may be more or less than as shown. Associated with each of the coin controlled devices or stations is a base, the several bases being indicated by the characters 56^a to 56^d to correspond with the respective players' stations. Each of these bases is shown provided with a series of sockets 57 for a like number of plugs 58 carried by circuit wires 59 arranged in multiple from a conductor 60. On the opposite side of the base and by virtue of the sockets 57 any of the wires 59 plugged into such sockets will continue their circuits into a conductor 61 leading to the movable contact 52 above described. It will be understood that the plugs 58 may be inserted into any of the sockets of any of the bases, the wires 59 being long enough to extend to any part of the system. It is to be understood that this plugging expedient is to be under the sole control of the operator and not to be practiced by the players of the game. This plugging may be done at any time, either before the playing is begun, or while the playing is progressing, as stated below.

Interposed in each of the wires 59 is a suitable electric indicating or signaling means, such for example as a lamp 62. A wire 63 leading from each contact 32 may be regarded as the return wire of the system or companion conductor with the conductor 60 from the same source of electrical energy. The signaling means 62 may be used for any desired purpose either for amusement or industrial uses, but for the purpose of the present description it may be understood as being used as follows: Assuming that the apparatus is to be employed in place of selling paddles or tickets carrying numbers, as is commonly done at amusement resorts or

the like, instead of selling such commodities the operator will sell for example the agreed number of lamps 62 and he may plug into as many of the sockets 57 as there have been lamps purchased. For this purpose the plugs may all be inserted into the base corresponding to the station at which the player deposits his coin *c*, and in this instance the player will claim all lamps pertaining to the base so plugged. The method of depositing a coin is to insert it through the slot 17 into the slot 20, releasing the locking trigger 71, then the player will draw the slide forward pulling for this purpose upon a finger piece 64 projecting laterally from the slide, and so the coin will drop from the slot through the slot 18 into the chute, being received upon and bridging the contacts 31 and 32. The circuit will now be complete through any of the lamps or other signaling devices that are plugged into the base corresponding to the player's station.

In view of the fact that a large number of lamps may be employed and many of them may be lighted at the same time, any player whenever he desires may cause his lamps to flicker in order to recall to his mind which his numbers may be. This result is accomplished by such player pulling forward upon the finger piece 54 to open the switch at 52. When he so draws forward his lamps will go out, but will be immediately relighted when he releases the finger piece. This operation may be repeated by the player as frequently as desired and for the purpose stated. For amusement purposes generally this expedient has a further advantage of constituting a source of attraction for the apparatus. In other words the flash or flickering of the lamps more or less indiscriminately over the field or board 65 upon which the lamps are located, will be noticeable from any reasonable distance and so will tend to attract the public toward the station or booth at which the apparatus is located.

The magnets 43 are all shown arranged in series in a branch or auxiliary circuit 66, which circuit is normally open at a switch 67 under the control of the operator. The term "operator" as used herein is to be regarded as synonymous with the manager and distinguishable from the players or patrons of the apparatus. When the lamps have all been sold or a sufficient number of them to satisfy the operator, the coins from the several players having been deposited in the position indicated in the first two stations of Fig. 4, or at any time after the playing of the game, race, or any other apparatus or device has been made and for which the several players are contesting, the operator will close the circuit at 67 and so energize the magnets 43, releasing any coins supported thereby and permitting them to drop into the receptacles 13. This releasing action puts the cores 44 into the position shown in Fig. 5 where they are locked by the pins 47 while the pins are held in locking position by the slides 19 until the slides are subsequently moved forward by interested players. It follows therefore that unless a coin has been admitted the core will not be in its advanced position to be reciprocated forward and make a false record on the recorder 49.

In the diagram of Fig. 7 the parts 27, 28, 43′, 44′, 61′, 63′ and 66′ correspond in all general respects to the correspondingly numbered parts in the diagram of Fig. 4. In this diagram of Fig. 7 however there is only one circuit for the coin control devices and such devices are all in series in said circuit, whereas in Fig. 4 the coin controlling members 27 and 28 and the parts directly associated therewith are arranged in multiple. Consequently as indicated in Fig. 7 none of the magnets 43′ can be energized until all of the coin chutes are supplied with coins and furthermore the last coin admitted serves directly and automatically to complete the circuit and cause the simultaneous energizing of the magnets 43′ and the consequent delivery of the coins from the holders 27 and 28.

In addition to the method of operation just described the devices of Fig. 7 may be made to function as follows: Wires 61′ and 63′ may be connected or inserted electrically in a main line circuit of any device, not a part of the coin controlled indicators. The coin device will then become only a part of a major device which must function electrically. Furthermore the functioning of this major device would cause a current to pass through this main line and thus cause a like current to pass through each of the solenoids of the coin indicators, these being connected electrically in series with each other as in Fig. 7, and being inserted with the main line of the major device. The functioning of the coin indicators would automatically release all coins. This would make the coin device an automatic coin ejector and a coin receptacle. It will also be noted that the major device could not be operated until all the coins were inserted in the various coin indicators.

Referring again to the adjustment of the coin chute it will be obvious that the screw 35 may be turned inward far enough to bring the contacts 31 and 32 together and hence any of the stations that may be idle or desired to be kept out of commission must be so set that the admission of a coin will not be necessary. This feature applies especially to the series arrangement such as indicated in Fig. 7.

In Figs. 8 to 12 inclusive I show a modi-

fied form or development of coin slide calculated to prevent the manipulation of the slide and hence the disturbance of the solenoid and registering devices unless a coin is inserted into the slide through the slot 17. In this modified form the slide 19′ is provided with a coin slot 20′. In the ends of the slot 20′ are shown a pair of springs 20ª so designed as to receive the coin between them and hold it remote from the ends of the slot and having the further function of serving to expel the coin from the slot at the intended time. 68 indicates a trigger pivoted at 69 in the slide 19′ and movable in a horizontal plane around said pivot. This movement in one direction is resisted by a spring 70 tending to force the nose 71 of the trigger outward into a notch 72 where it engages over a shoulder 73 thereby holding the slide in its normal locked position of Fig. 8. The rotation of the trigger against the force of the spring 70 is effected by the downward thrust of the coin through the slot 17, the lower edge of the coin bearing against an inclined surface 74 at the other end of the trigger. The spring 70 as shown in Fig. 9 will cause the beveled end of the trigger to bear against and support the coin so that it will be carried with the slide, at this time free to be moved by the player against the force of the spring 21. The nose 71 of the trigger during the principal portion of this movement glides along a groove 75, but just as it reaches the end of the stroke the nose rides up out of the groove to the point 76 whereby the spring 70 will be put under further compression and the beveled end 74 will release the coin as shown in Fig. 10 and allow it to drop through the slot 18 as above described. Since the coin is carried with the slide it is desirable that the lateral space for the coin be regulatable according to the thickness of the coin, and to this end I provide a gripper 77 which co-operates with the beveled end 74 to hold the coin. A cam 78 adjustable around a vertical axis acts against the opposite side of the gripper to cause it to be moved toward the trigger against the force of springs 79. This adjustment may be effected by means of a knob 80 co-operating with an indicator 81 gaged to correspond with the gaging at the plate 41. If desired more than one coin slot or chute may be provided in connection with each coin box so as to make it possible to charge fees according to any desired combination of coins, but in any event all of the coins must be ejected at the same instant by a common solenoid for each box and each coin chute must be adjustable by a screw corresponding to the screw 35, and each would have its own indicating means. (See Fig. 6ª.) Furthermore when the coin boxes are portable as they may be it may be desirable under certain conditions such as at amusement resorts to sell various indicators or combinations of indicators to different players. In this case the winning set of indicators may be held by more than one player. This fact may be evidenced by the players holding the coin box for the winning set of indicators. In this condition all like coin boxes will be connected electrically in parallel with each other. In this connection attention is called to Figs. 13, 14 and 15 wherein I show indicator lamps 62 variously arranged in groups each group being in series, but with different lamps in the groups in multiple or series multiple. The flexibility of the system or apparatus incident to the fact that the coin receptacles at the stations A, B, C, etc., of any desired number, may be connected in a multiplicity of variable ways with various groupings or sets of lamps or indicators, makes it possible for the winning lamp or sets of lamps to be held by more than one player. Obviously only one lamp, however, may be plugged in for each base.

As these devices are made in practice the means shown in Fig. 1 for preventing the premature admission of a second coin into the slot 20 is included in the mechanism of Figs. 8 to 12 in which the slide or transfer member is positively locked from forward movement prior to the admission of a coin.

I claim:

1. In a coin-controlled indicator, the combination of a series of coin-controlling devices each constructed to receive and deliver a coin, a series of bases in circuit with the respective coin-controlling devices, a series of electrically operated indicating means adapted to be connected with said bases, there being a plurality of indicating means for each base in circuits interchangeably connected with any of the several bases, a main circuit in which said indicating devices are arranged, the coin-controlling means being so arranged as to complete the circuit in the respective bases when connections are made therewith from the indicating devices and coins are inserted and a pair of spaced contact carriers included in each coin-controlling device, said carriers adapted to be bridged by and to support a coin.

2. A device as set forth in claim 1 in which one of the carriers is adjustable toward and from the other, and means for so adjusting it and for determining the diameter of the coin and also for indicating the denomination of the coin to be used in the apparatus.

3. In a coin-controlled device, the combination of a casing having a coin chute, a pair of spaced contact carriers located in said chute, one of said carriers being mov-

able with relation to the other, contacts carried by the carriers and adapted to support temporarily and be bridged by the coin delivered into the chute, means to move the movable carrier away from the other carrier to release the coin, and means automatically to lock the movable carrier in its removed position including a coin slide and a relatively stationary member having a slot through which a coin can be inserted into said slide only when the slide locks the movable carrier.

4. In a coin-controlled device, the combination of a chamber having a coin chute, a pair of spaced contact carriers therein, means including a transfer member to deliver a coin into the chute where it is supported by the contact carriers, means to automatically move one of the carriers away from the other to release the coin from the chute, and means under the control of said transfer member to automatically lock the movable carrier in spaced position from the other carrier after the coin is released.

5. A device of the nature set forth in claim 4 in which said locking means comprises a pin arranged to be moved into locking position by the action of said transfer member.

6. In a coin-controlled device, the combination of a casing having a coin chute, a pair of spaced contact carriers located in said chute, one of said carriers being movable with relation to the other, contacts carried by the carriers and adapted to support temporarily and be bridged by the coin delivered into the chute, means to move the movable carrier away from the other carrier to release the coin, and means automatically to lock the movable carrier in its removed position, the means for moving said movable carrier comprising a solenoid having a notched core, and said means for automatically locking said movable carrier comprising a slidable pin adapted to engage in said notch.

7. The combination as in claim 4 wherein said means for moving one of said carriers includes a notched member, said means to lock said carrier in spaced position includes a pin adapted to engage in said notch, and said transfer member includes a cam portion adapted to depress said pin into engagement with said notch.

8. The combination as in claim 4 wherein said tranfer member includes resilient means for discharging a coin into said chute.

9. In a coin-controlled device, the combination of a casing, a pair of spaced carriers located therein, electrical contacts carried by said carriers and adapted to support temporarily and be bridged by a coin delivered into said casing, a circuit adapted to be closed by said bridging of said contacts, signal means in said circuit operative by said bridging of said contacts, means for adjusting the position of one of said carriers according to the denomination of the coin that is to bridge said contacts, a movable contact in said circuit normally in engagement with said adjustable carrier, and means for withdrawing said movable contact from engagement with said carrier so as to break said circuit and cause an intermittent operation of said signal means.

10. In a coin-controlled device comprising a casing having a coin-admission opening, the combination of a transfer member having a slot normally registering with said coin-admission opening, resilient means tending to retain said transfer member in said normal position, a pair of spaced contact carriers within said casing, means to advance said transfer member to cause delivery of a coin therefrom to be supported by and bridge said contact carriers, one of said contact carriers being movable so as to release the supported coin therefrom, automatic means for so moving said carrier, and means for temporarily locking said movable carrier after the delivery of the coin, said locking means including a resilient member tending to unlock the same, said transfer member having cam means tending through the superior force of the first mentioned resilient means to cause said locking means to temporarily lock.

11. In a coin-controlled apparatus, the combination of a series of coin-controlling devices each constructed to receive and deliver a coin, a series of bases in circuit with the respective coin-controlling devices, a series of electrically operated mechanisms adapted to be connected with said bases, and a main circuit in which said mechanisms are arranged, the coin-controlling devices being so arranged as to complete the main circuit in the respective bases when connections are made therewith from the mechanisms aforesaid and coins are inserted, the connections between the electrically operated mechanisms and the bases being variably connectable with any of the bases.

12. In a coin-controlled device, the combination of a casing to receive a coin, a pair of spaced contacts located therein and adapted to support temporarily and be bridged by a coin, one of said contacts being movable with relation to the other, means to move the movable contact to deliver the coin, and means to lock automatically the movable contact in its removed position including a coin transfer member which is operative to receive a coin only when the movable contact is locked as aforesaid.

13. In a coin-controlled device, the combination of a casing, a pair of spaced contacts therein and adapted to receive and be bridged by a coin for closing a circuit, the casing having a coin slot out of registry with the space between the contacts, a mov-

able transfer member within the casing to receive the coin and deliver it into registry with the contacts, means to release the coin from the contacts after bridging them, and means to prevent the admission of a subsequent coin to the transfer member prior to the release of the first mentioned coin from the contacts, said transfer member being slidable within the casing and the means for preventing the admission of a subsequent coin prematurely being a member obstructing the sliding movement of the transfer member to its receiving position.

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