June 26, 1945. C. J. NEITZEL 2,379,030

BINGO COUNTER SELECTOR AND EXHIBITING MACHINE

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Fig. 1.

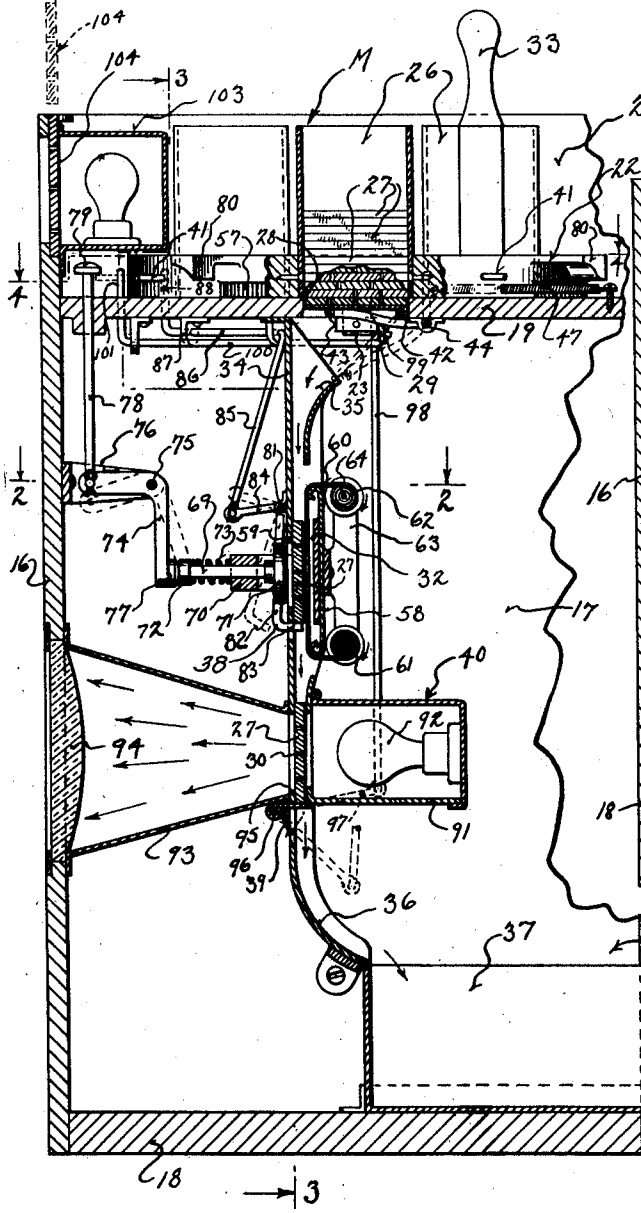
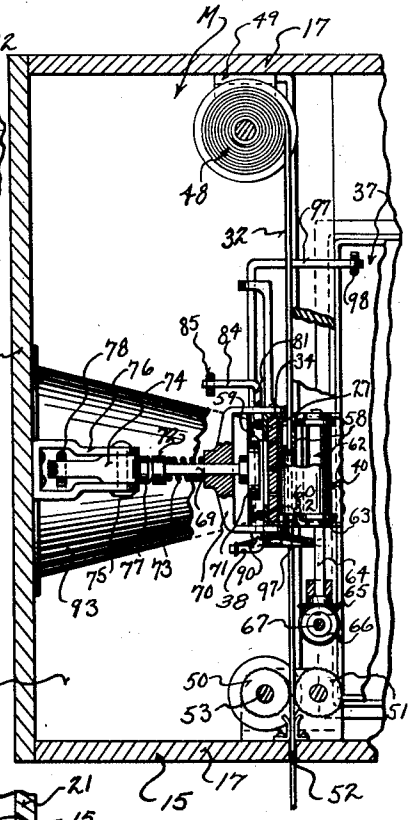


Fig. 2.



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BINGO COUNTER SELECTOR AND EXHIBITING MACHINE

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Fig. 3.

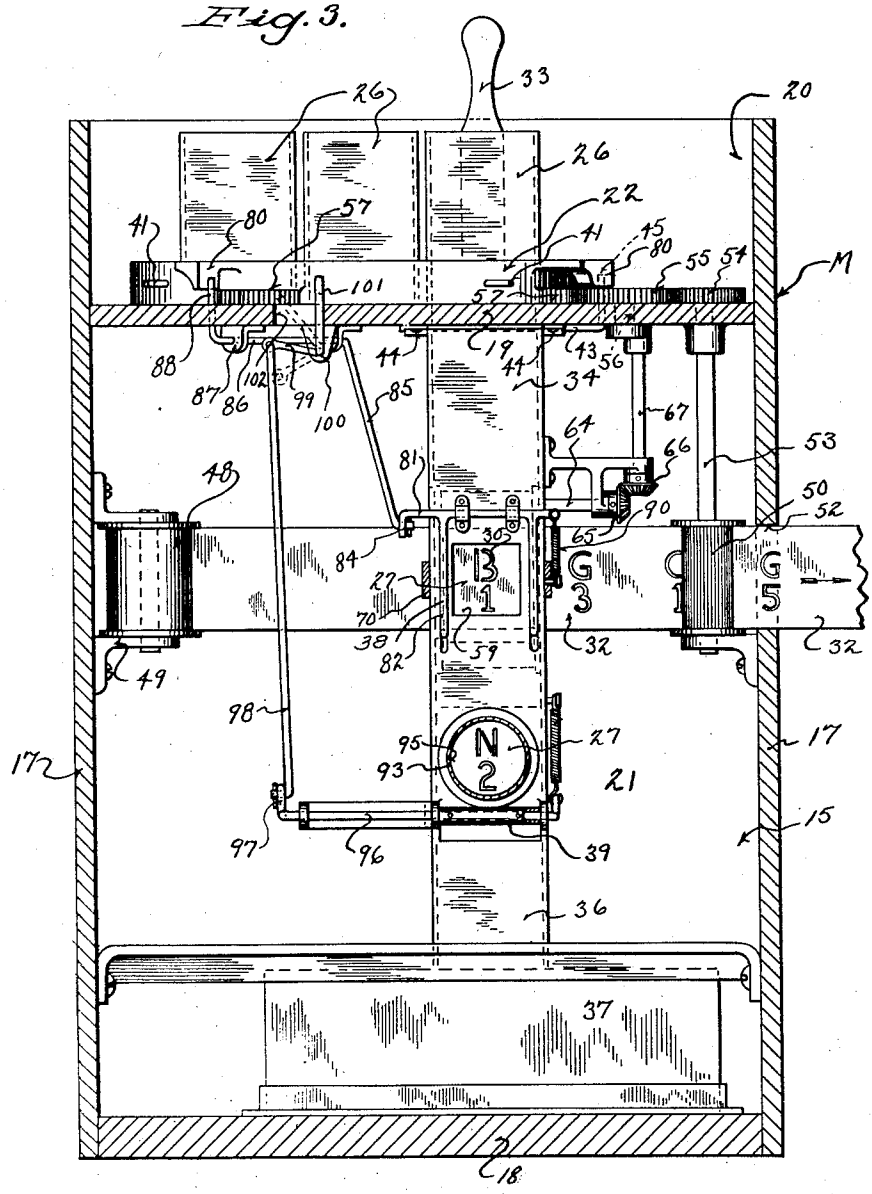

Fig. 5.

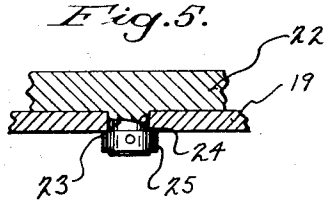

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Fig. 4.

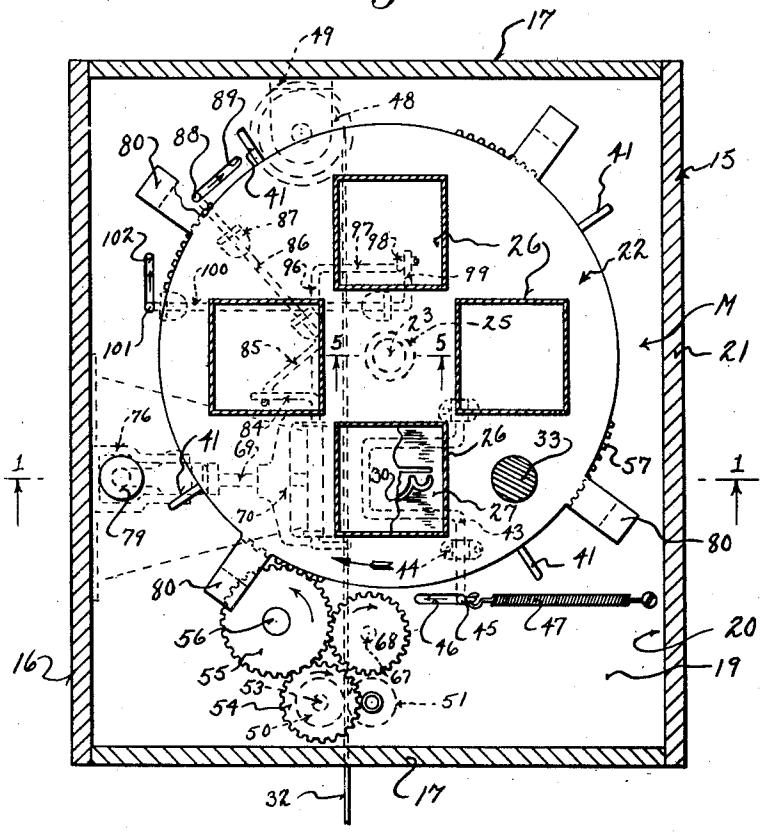


Fig. 7.

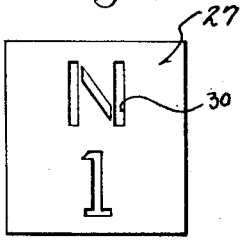


Fig. 8.

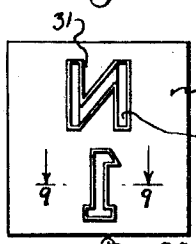


Fig. 9.

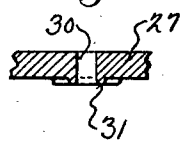


Fig. 10.

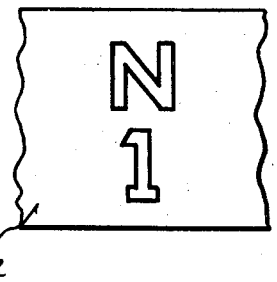
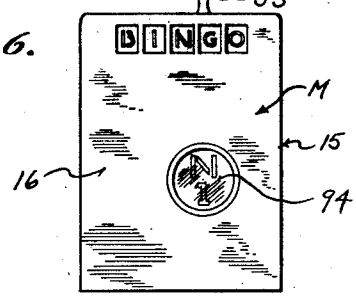


Fig. 6.



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Patented June 26, 1945 2,379,030

UNITED STATES PATENT OFFICE

2,379,030

BINGO COUNTER SELECTOR AND EXHIBITING MACHINE

Charles J. Neitzel, Watertown, Wis., assignor of one-third to John J. Bhend, Watertown, Wis.

Application March 1, 1943, Serial No. 477,558

6 Claims. (Cl. 40—78)

This invention appertains to games, and game apparatus and more particularly to a novel counter selector for use in the game of the type commonly called bingo.

In games of the above character, it is customary for one person to select one counter at a time from a plurality of counters and to announce the number of the counter selected to the assembled players. The players themselves have no means of knowing whether the number announced is actually correct corresponding to the number on the selected counter.

It is therefore one of the primary objects of my invention to provide a machine for automatically selecting counters one at a time from a plurality of counters and for exhibiting the selected counters one at a time to the assembled persons in a highly magnified condition, whereby the persons themselves can see the numbers on the counters and thereby prevent fraud entering the game.

A further important object of my invention is the provision of a machine which will first select a counter from a plurality of counters, second exhibit the counter to view in a magnified condition to the players and third finally release the counter to a receptacle where the same can be returned to the top of the machine at the end of each game.

A still further object of my invention is to provide novel means for operating all of the mechanism in proper sequence from a single operating wheel.

A still further important object of my invention is to provide a machine of the above character, which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangment, and formations of parts, as will be hereinafter more specifically described, claimed, and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a vertical sectional view through my improved machine taken on the line 1—1 of Figure 4 looking in the direction of the arrows.

Figure 2 is a horizontal sectional view taken on the line 2—2 of Figure 1 illustrating the mechanism employed for making a printed record of the counter selected.

Figure 3 is a vertical sectional view taken at right angles to Figure 1 and on the line 3—3 of Figure 1 looking in the direction of the arrows, the view illustrating parts of the printing mechanism and the means for actuating certain gates for controlling the path of movement of a selected check or counter.

Figure 4 is a horizontal sectional view taken on the line 4—4 of Figure 1 looking in the direction of the arrows illustrating the operating wheel and the hoppers for the counters carried thereby.

Figure 5 is a detail sectional view taken on the line 5—5 of Figure 4 looking in the direction of the arrows illustrating one means for rotatably supporting the operating wheel.

Figure 6 is a front elevational view of my complete machine, the view being drawn on an extremely reduced scale.

Figure 7 is a front elevational view of one of the checks or counters.

Figure 8 is a rear elevational view of the counter shown in Figure 7.

Figure 9 is an enlarged fragmentary detail sectional view through one of the counters, the section being taken on the line 9—9 of Figure 8 looking in the direction of the arrows.

Figure 10 is a fragmentary front elevational view of the record strip.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts through the several views, the letter M generally indicates my counter selector and exhibiting machine, and the same includes a cabinet 15 which can be formed from wood or molded from plastic material. Obviously the cabinet can take various shapes and forms and be ornamented in different manners so as to present a pleasing and attractive appearance to the general public. For the purpose of illustration, I have shown the cabinet as including a front wall 16, side walls 17 and a bottom wall 18. A top wall 19 can be secured to the front wall 16 and the side walls 17 and this top wall is spaced a considerable distance below the upper edges of the front and side walls to form a top compartment 20, for a purpose, which will be later set forth. The back of the cabinet can be closed by a removable rear wall 21 and by removing said wall, access can be had to the interior of the cabinet to permit the making of necessary repairs, adjustments, etc.

Rotatably mounted in the compartment on the upper face of the top wall 19 is the main operating wheel 22. This wheel can be rotatably carried by the top wall in any preferred way and as shown, see Figure 5, the wheel 22 is provided with a depending stud 23 which

extends through a bearing opening 24 formed in said top wall 19. The lower end of the stud 24 can be provided with a retaining collar 25 to hold the operating wheel 22 in place. Extending entirely through the operating wheel are a plurality of equi-distantly spaced hoppers 26 for receiving stacks of checks or counters and these checks or counters 27 are piled indiscriminately in the hoppers. Upon the turning of the wheel 22 the hoppers 26 ride one at a time past a discharge opening 28 formed in the upper wall 19. This discharge opening 28 is normally closed by a swinging trap door 29 and by referring to Figure 1, it will be noted that the trap door 29, when the same is in its raised closed position, is spaced the thickness of one counter from the upper edge of the top wall. Hence, when the gate is closed one counter at a time will drop from a hopper into said opening 28. The gate is controlled by a novel mechanism from the wheel 22 as will be later described. Attention is now directed to the construction and formation of the checks or counters 27 themselves.

Each check or counter 27 is preferably formed from a flat plate which can be of a rectangular shape and the plate has cut out therefrom an identifying number 30. Obviously each check is provided with a different identifying number. Where the game of bingo is being played the counter will have cut therefrom the letters, B, I, N, G, and O, and under each letter will appear a cut out number. The purpose of cutting out the identifying number or indicia is to allow light to shine through the counters, for a purpose, which will also be later set forth. The rear face of the check has a raised sharp marginal printing rib 31 formed about the identifying number or indicia, similar to a typewriter key and this raised rib is used for printing the number or indicia on a paper strip 32 as will also be hereinafter more fully described.

In order to turn the operating wheel 22, so as to bring the hoppers 26 past the opening 28, the wheel 22 can be provided with an upright handle 33, but obviously any suitable device can be used for turning this wheel.

Arranged below the top wall 19 slightly in advance of the opening 28 is a vertically disposed counter receiving chute 34. The upper end of the chute is provided with a wide flaring mouth 35 and when the trap door or gate 29 is lowered the same rides into the mouth so that the counter in the opening 28 will be guided into said chute. The lower end of the chute terminates in a rearwardly directed arcuate guide portion 36 so that when the counter ultimately reaches the end of the chute the same will be guided into a receptacle 37 provided for that purpose. This receptacle can be in the nature of a drawer slidably mounted in the cabinet and removable from the cabinet through an opening in the rear wall 21.

As a counter falls into the chute and rides down the chute, the same is momentarily stopped and held in front of the paper strip 32 by a holding gate 38, which is also operated from the wheel 22 by a mechanism which will be later described. After the indicia on the counter is printed on the paper strip, by means to be described, the counter is released by the gate 38 and the counter continues its downward movement in the chute 34 until the same is stopped by a swinging gate 39 in front of an illuminating means 40. The counter is exhibited by the illuminating means and other parts to the public or the assembled players at this point. The gate 39 is also operated from the wheel 22 and when this gate swings out from the chute, the counter continues its downward movement in the chute until the same rides out of the chute into the receptacle 37.

The mechanism for operating the upper-most gate or trap door 29 includes a plurality of radially extending operating pins 41 arranged at quarters on the periphery of the wheel 22. The trap door or gate itself is mounted for swinging movement on a hinge pin 42 and the gate is held in a raised position by a U shaped crank 43. The crank is mounted for rocking movement in bearings 44 carried by the under-face of the top wall 19 and one end of the U shaped crank is provided with an upstanding crank arm 45 which extends through a slot 46 formed in the top wall 19. A contractile coil spring 47 is connected to the crank arm 45 and to the cabinet and normally holds the crank arm 45 against the rear wall of the slot 46 and the U shaped crank 43 in a horizontal position for holding the trap door or gate 29 in its raised position. When a pin 41 on the wheel 22 rides past the crank arm 45 the crank arm will be moved forwardly and the U shaped crank 43 will be rocked in its bearings which will allow the opening of the gate or trap door 29 and the falling of a selected counter from the opening 28 into the chute 34 to the position shown in Figure 1 in front of the paper strip 32.

The printing mechanism includes the paper strip 32 and this strip can be wound off a spool 48 rotatably and removably supported in the cabinet by brackets 49 secured to one side wall 17 of the cabinet. The strip is fed past the chute and between a pair of feed rollers 50 and 51. These rollers function to pull the paper strip off of the spool and out of the cabinet 15 through a slot 52 formed in one side wall 17 of the cabinet. The roller 51 can be in the nature of an idle roller, while the roller 50 constitutes the drive roller and this roller 50 is keyed or otherwise secured to an upright shaft 53 rotatably mounted in suitable bearings carried by the cabinet. The upper end of the shaft 53 has keyed or otherwise secured thereto a spur gear 54, which meshes with a relatively large spur gear 55 carried by a stub shaft 56. This stub shaft is rotatably supported in bearings carried by the top wall 19 and meshes at certain times with sector gear teeth 57. These gear teeth 57 are arranged in groups around the wheel 22 and hence the spur gear 55 is only operated at certain predetermined intervals. The paper strip 32 rides over a bed plate 58 which is arranged in rear of the chute 34 and the chute is cut out or provided with an opening 59 in front of the bed plate and the paper strip. The upper and lower edges of the bed plate are curved inwardly to provide guide faces over which rides an inked ribbon 60 which is similar to a typewriter ribbon only of a wider order. This ribbon is wound off a lower ribbon spool 61 and onto an upper ribbon spool 62. These spools are detachably and rotatably carried by a bracket 63 which is fastened to the bed plate 58. The bed plate itself can be fastened to the chute. The upper ribbon spool 62 is power driven at certain times so as to advance the ribbon over the paper strip and hence the upper spool 62 has connected therewith a rotatable shaft 64. This shaft is mounted in suitable bearings and has keyed or otherwise fastened thereto a beveled gear 65.

This beveled gear meshes with a similar beveled gear 66 which is fastened to a vertical shaft 67. The shaft 67 is mounted in bearings carried by the cabinet and extends through the upper wall 19 and the upper end of the shaft has fastened thereto a spur gear 68 which meshes with the spur gear 55. Thus the gear 68 and consequently the ribbon spool 62 is operated from the wheel 22 through the medium of the sector gears 57 and the spur gear 55.

A strike plunger 69 is slidably mounted in a bracket 70 carried by the front of the chute 34 in front of the paper strip and the inner end of the strike rod is provided with a strike head 71 for engagement with a counter held in front of the paper strip and the opening 59 in the chute. The outer end of the strike plunger is provided with a bearing head 72 and an expansion spring 73 is coiled about the strike plunger and is disposed between the head 72 and the bracket 70 for normally holding the strike head 71 away from the counter. A bell crank 74 is rockably mounted at its angle on a bearing pin 75 which is carried by a bracket 76 secured to the front wall 16 of the cabinet. The outer end of the lower arm of the bell crank has formed thereon a strike foot 77 for engagement with the bearing head 72 of the strike plunger and the outer end of the upper arm of the bell crank has pivotally connected thereto, by means of a pin and slot connection, a sliding operating rod 78. This rod is slidably carried by the top wall 19 and extends through said wall and has its upper end provided with an operating head or base 79 which is arranged in the path of radially extending cam arms 80. These cam arms 80 extend radially from the wheel 22 and are arranged at quarters on the wheel adjacent to the sector gears 57. When the wheel is turned and when one of the cam arms 80 rides over the operating head or base 79 the rod 78 will be depressed and the bell crank 74 will be actuated. This movement of the bell crank 74 will operate the strike rod 69 and forcibly carry the strike head 71 thereof into engagement with the counter in the chute and this counter will be carried forcibly against the inked ribbon 60 and against the paper strip 32 and the number or indicia on the counter will be imprinted on the paper strip. After a cam arm rides past the operating rod 78 the spring 73 will return the strike rod 69, the bell crank 74 and the operating rod 78 to their normal position.

After the imprinting of the indicia on the counter which is disposed in front of the paper strip, this counter can then be released by the gate 38 and this gate and its operating mechanism will now be described.

The gate 38 includes a rock shaft 81 having formed thereon or connected thereto depending gate arms 82 and the terminals of these arms have in turn formed thereon inwardly directed fingers 83 which are normally adapted to project through the chute and under the counter to support the counter in front of the paper strip. One end of the rock shaft is provided with a crank arm 84 and operably connected to this crank arm is a depending elongated operating crank 85. This operating crank is in turn formed on one end of a crank shaft 86 which is rockably mounted in bearings 87 carried by the under-face of the top wall 19. The end of the crank shaft 86 remote from the depending crank arm 85 has formed thereon an upwardly directed relatively short crank 88 which extends through a slot 89 formed in the top wall 19. When a pin 41 rides past the crank 88, the crank 88 will be depressed which will rock the shaft 86 and the rocking of this shaft will in turn operate the gate 38, through the medium of the crank arms 85 and 84. This will swing the fingers 83 from under the counter and allow the counter to continue its movement down the chute until stopped by the lower-most gate 39. A spring 90 is provided for normally holding the gate 38 in a lowered position with the fingers 83 under the counter.

As the counter leaves the printing point the same drops in front of the illuminating means 40 and is held in position by the bottom gate 39. The illuminating means 40 includes a lamp casing 91 which is secured to the chute and this lamp casing 91 has disposed therein an electric lamp 92. The casing 91 is disposed in rear of the counter chute 34 and the front of the chute has connected therewith a flared sight tube 93 which leads toward the front of the casing. The cabinet 15, at this point, is provided with an opening which is closed by a magnifying glass 94. The chute itself, directly in rear of the tube 93 and in front of the lamp casing, is provided with an opening 95. Consequently when a counter comes to rest on the gate 39 the same will be illuminated by the lamp 92 and persons looking into the cabinet will see the counter in a highly magnified condition and hence the indicia on the counter can be easily read. Obviously the check or counter illuminating and magnifying means can be readily modified so that the check can be projected onto a screen which can be in full view of the assembled persons.

As previously stated, the gate 39 is controlled from the operating wheel 22 and this gate is secured to a rock shaft 96 mounted in bearings carried by the chute. One end of the rock shaft 96 has formed thereon a crank arm 97 and this crank arm has operatively connected thereto an upwardly extending push rod 98. The upper end of the push rod, in turn, is operatively connected to one arm 99 of a rock shaft 100 mounted in bearings which are carried by the lower surface of the top wall 19 of the cabinet. Another arm 101 of the rock shaft 100 extends through a slot 102 formed in said top wall 19 and this arm 101 is arranged in the path of the radial pins 41 on the operating wheel 22. Consequently, when a pin strikes the arm 101, this arm will be moved forwardly in the direction of the arrow (see Figure 4) which will push down on the rod 98 and the rod 98, in turn, will rock the shaft 96 and move the gate 39 from under the counter and the counter will slide into the receptacle 37.

It is to be noted that the cam arms 80 on the wheel 22 extend beyond the radial pins 41 and that the cam arms are so shaped as to ride past the various cranks 45, 88 and 101 without actuating the same.

In operation of my machine, the counters are stacked in the hoppers 26 and the wheel 22 is turned by the handle 13. The first step in the operation is the depositing of a single counter 27 in the opening 28 of the top wall 19 on top of the trap door 29. As the wheel continues to rotate a radial pin 41 will strike the crank arm 45 and the check will be deposited in the chute 34 and will come to rest in front of the printing mechanism. A cam arm 80 will now operate the head 79 on the push rod 78 and the indicia on the check will be printed on the paper strip 32 and this paper strip and its inked ribbon will

be advanced in proper order by the sector gears 57 and the inter-meshing gears 54, 55 and 68. A pin 41 will now strike the arm 101 which will cause the operation of the gate 39 and permit a lower-most check or counter in front of the lamp 92 to be released (if there should be a counter in front of said lamp). The next step is the operation of the arm 88 by a pin 41 and this will cause the operation of the gate 82 which will release the counter in front of the printing mechanism so that said counter will ride in front of the lamp casing. As the counters are printed, the printed numbers can be readily seen by the operator of the machine.

Other refinements can be made, and if preferred, the top of the cabinet can be provided with a second lamp casing 103 and a slide 104 bearing the name of the game, such as Bingo, can be slid in front of the casing when a game has been finished so as to indicate to the players that the game has terminated.

While I have particularly mentioned the game Bingo, it is to be understood that my apparatus can be used for similar types of games irrespective under what name the game is played.

Changes in details may be made without departing from the spirit or the scope of my invention, but what I claim as new is:

1. In a game apparatus, a cabinet having a chute therein and a display opening, an operating wheel, a hopper for receiving a plurality of counters mounted on said wheel and movable past the chute, means for selecting one counter at a time from the hopper and for depositing the counter in the chute, means releasably holding the selected counter in the chute at the display opening, and means for releasing the selected counter from the chute after a predetermined interval of display.

2. In a game apparatus, a cabinet, an operating wheel having hoppers thereon rotatably mounted in the upper end of the cabinet, a wall in said cabinet having a counter receiving opening past which the hoppers on said wheel ride, a chute below said opening, a gate controlling said opening and the depositing of a counter in the chute, means for operating the gate from the wheel, means for displaying the selected counter in the chute to the public, a second gate for holding the selected counter in the display position, and means for automatically operating the second gate from the wheel.

3. In a game apparatus, a cabinet, having a horizontal wall provided with a discharge opening, a counter receiving chute in said cabinet below said opening, a swinging gate controlling said opening and the depositing of counters from said opening into the chute, said gate being normally spaced the thickness of a counter from the upper surface of the wall when the gate is in its closed position, an operating wheel rotatably mounted on the wall, a plurality of equi-distantly spaced counter receiving hoppers on said wheel having their lower ends open, the hoppers being movable past said opening upon the turning of the wheel, means for opening the gate including a rock shaft and a crank extending through the wall, a plurality of radially extending pins on the wheel for actuating the crank, and means for releasably holding a counter in the chute in a display position, said means being operable from said wheel.

4. In a game apparatus, a cabinet, a horizontally disposed wall in said cabinet having a counter receiving opening, a wheel rotatably mounted on said wall, a plurality of equi-distantly spaced counter carrying hoppers on said wheel having their lower ends open, said hoppers being movable past said opening upon operation of the wheel, a counter receiving chute disposed below the opening, a movable gate controlling the opening and the depositing of a counter from the opening into the chute, means for operating the gate automatically from the wheel upon the turning thereof, means for displaying the selected counter in said chute to the public, and means operated from the wheel for automatically releasing the selected counters in the chute after a predetermined interval of display.

5. In a game apparatus, a cabinet having a horizontal wall therein provided with an opening, a vertically disposed counter receiving chute leading from said opening, an operating wheel rotatably mounted in said cabinet on said wall, a plurality of equidistantly spaced counter carrying hoppers mounted upon said wheel having their lower ends open and movable past the opening in the wall upon rotation of the wheel for depositing a counter in said opening, a trap door controlling said opening, means for operating the trap door from the wheel, a display station for the counters in the chute, releasable means for holding the counters in the display station, and means operative from said wheel for actuating the releasable holding means in the display station.

6. In a game apparatus, a cabinet having a horizontal wall therein provided with an opening, a vertically disposed counter receiving chute leading from said opening, an operating wheel rotatably mounted in said cabinet on said wall, a plurality of equidistantly spaced counter carrying hoppers mounted upon said wheel having their lower ends open and movable past the opening in the wall upon rotation of the wheel for depositing a counter therein, a trap door controlling said opening, means for operating the trap door from the wheel, a display station for a counter in the chute, releasable means for holding the counters in the display station, and means operative from said wheel for actuating the releasable holding means in the display station, said display station including a lamp, lamp casing and a magnifying glass arranged on the opposite side of the display station from said lamp and lamp casing.

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