

Jan. 21, 1964

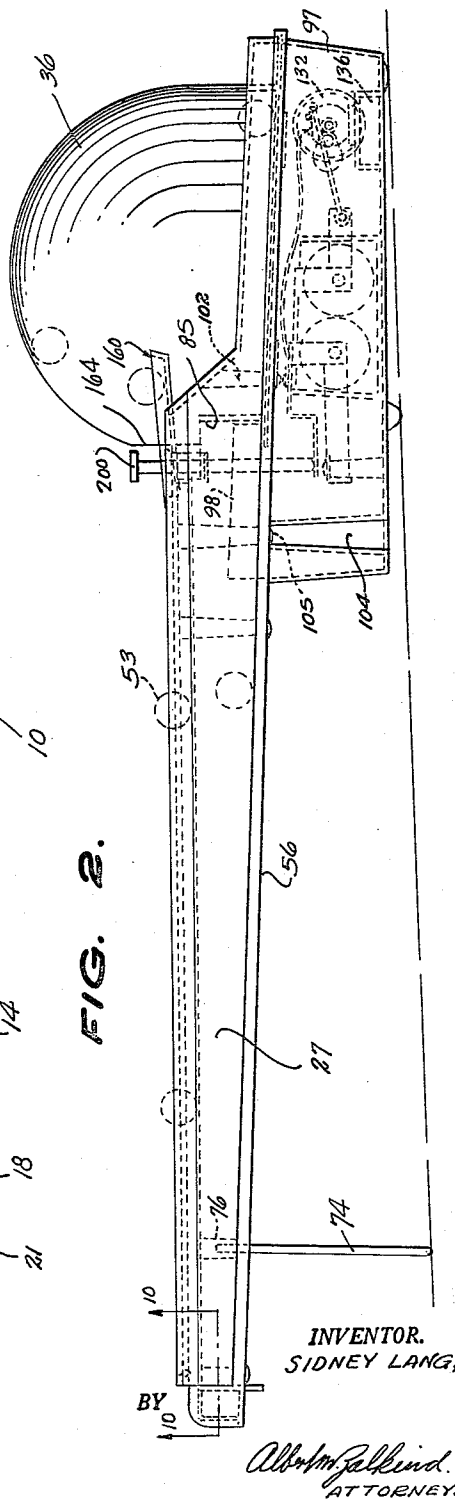
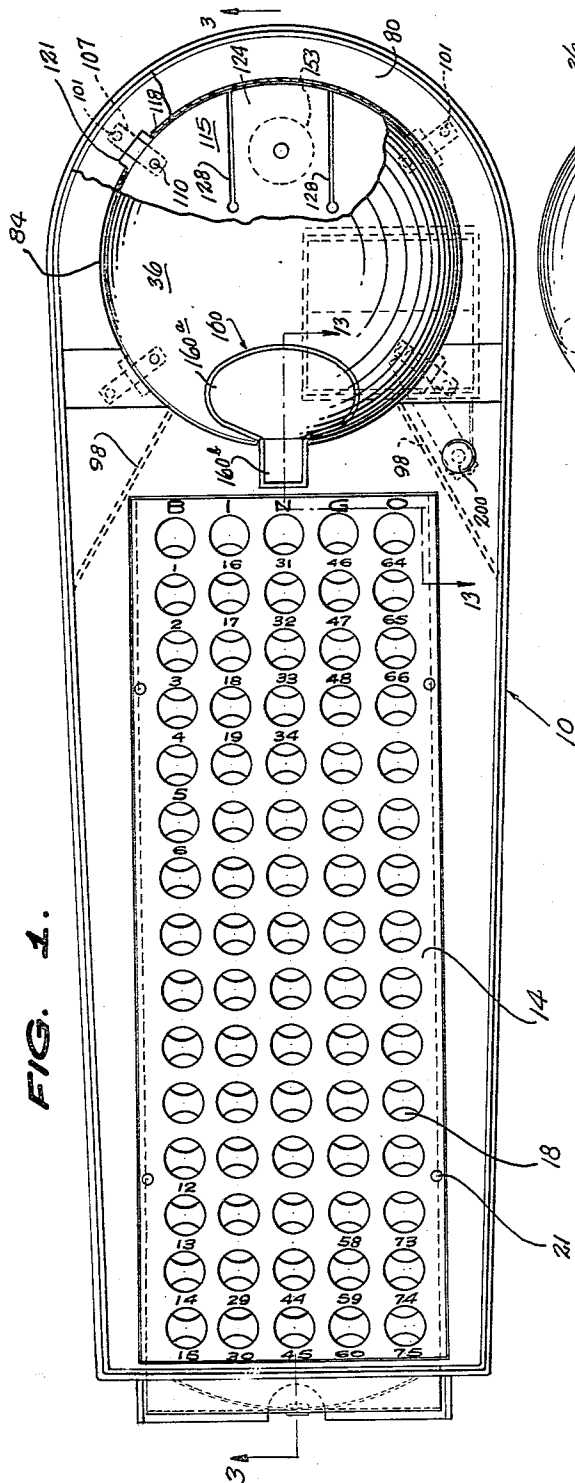
S. LANG

3,118,677

CHANCE NUMBER SELECTOR DEVICE FOR BINGO GAMES

Filed March 25, 1960

4 Sheets-Sheet 1



INVENTOR.
SIDNEY LANG,

Albert M. Falkind.
ATTORNEY.

Jan. 21, 1964

S. LANG

3,118,677

CHANCE NUMBER SELECTOR DEVICE FOR BINGO GAMES

Filed March 25, 1960

4 Sheets-Sheet 2

FIG. 3.

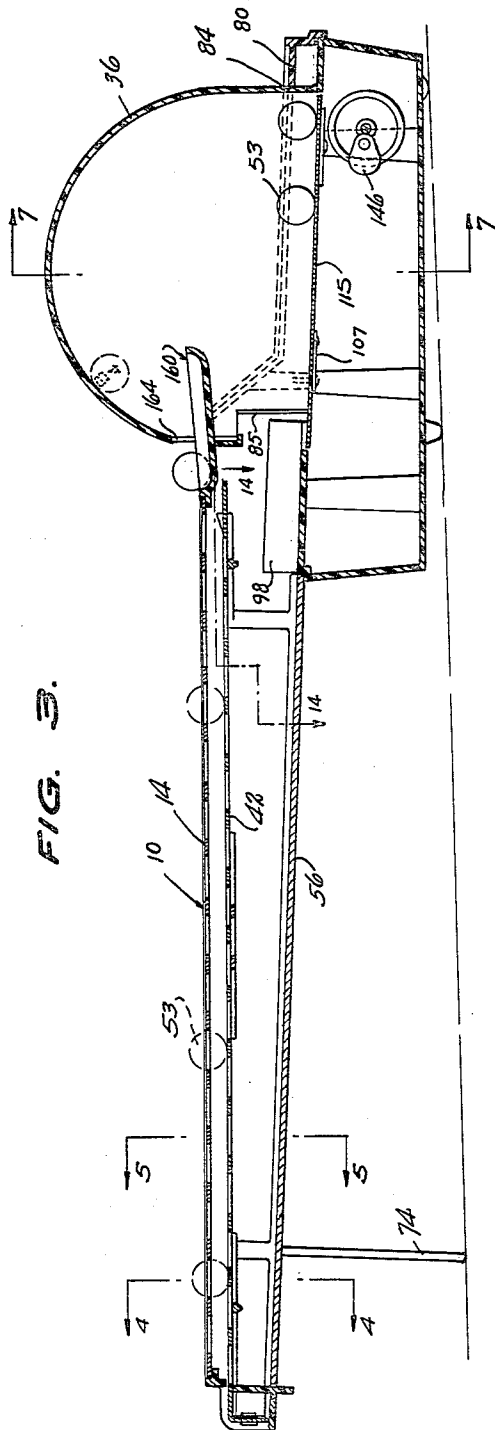


FIG. 5.

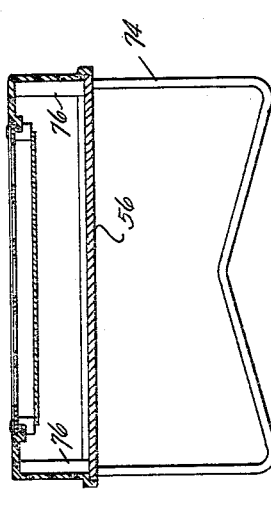


FIG. 4.

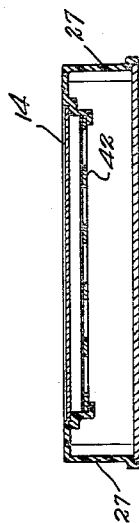


FIG. 6.



INVENTOR.
SIDNEY LANG,
BY

Albert M. Falkind.
ATTORNEY.

Jan. 21, 1964

S. LANG

3,118,677

CHANCE NUMBER SELECTOR DEVICE FOR BINGO GAMES

Filed March 25, 1960

4 Sheets-Sheet 3

FIG. 7.

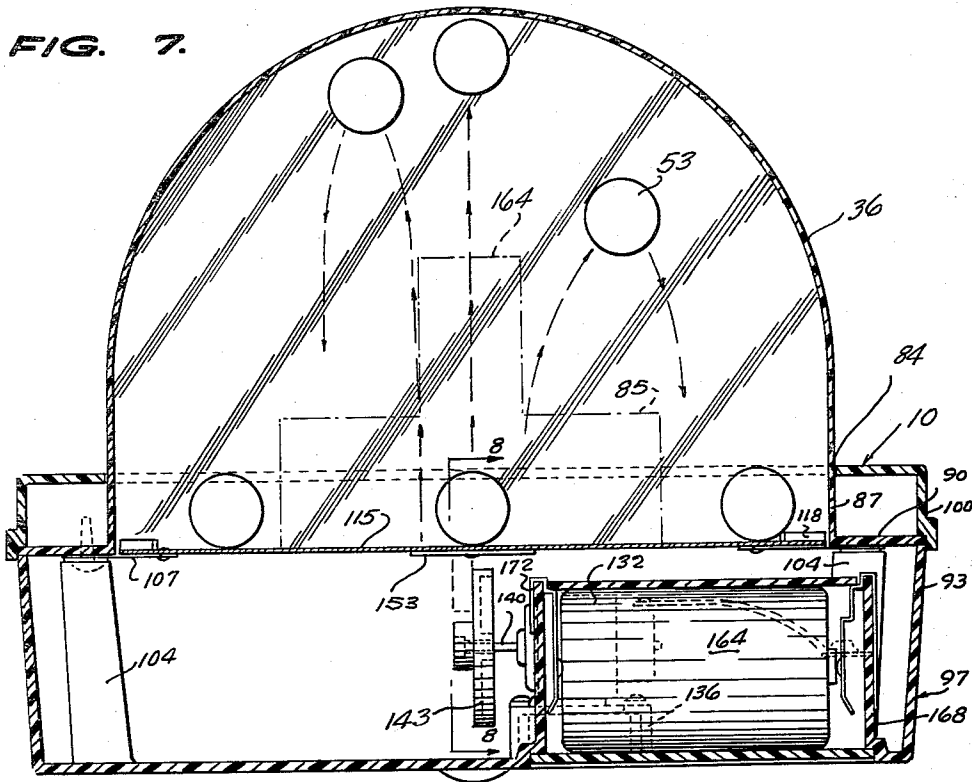


FIG. 8.

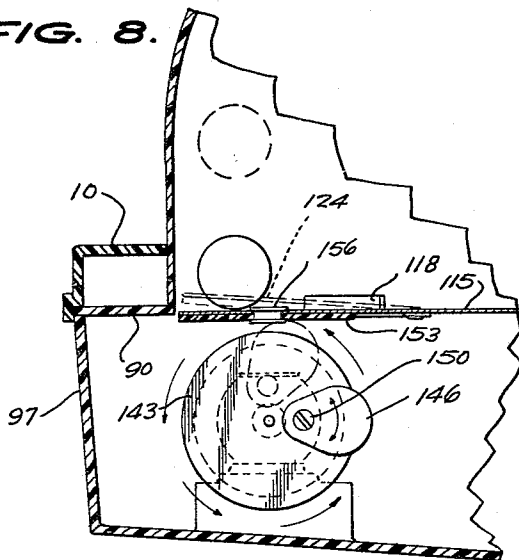
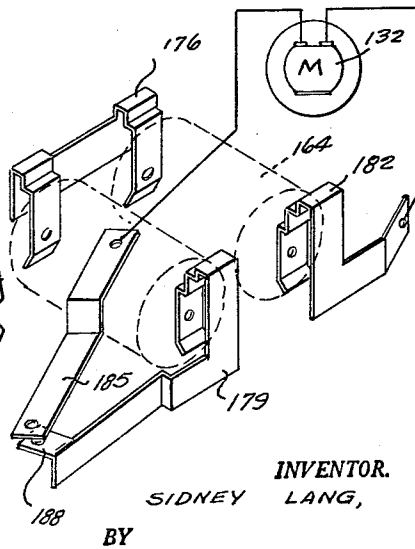


FIG. 9.



INVENTOR.
SIDNEY LANG,

BY

Albert M. Falkind.
ATTORNEY.

Jan. 21, 1964

S. LANG

3,118,677

CHANCE NUMBER SELECTOR DEVICE FOR BINGO GAMES

Filed March 25, 1960

4 Sheets-Sheet 4

FIG. 10.

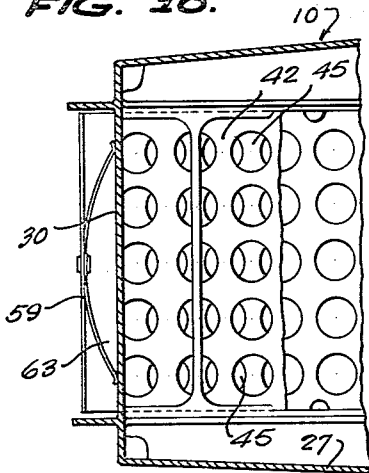


FIG. 11.

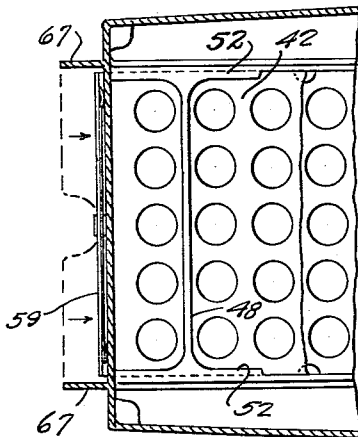


FIG. 13.

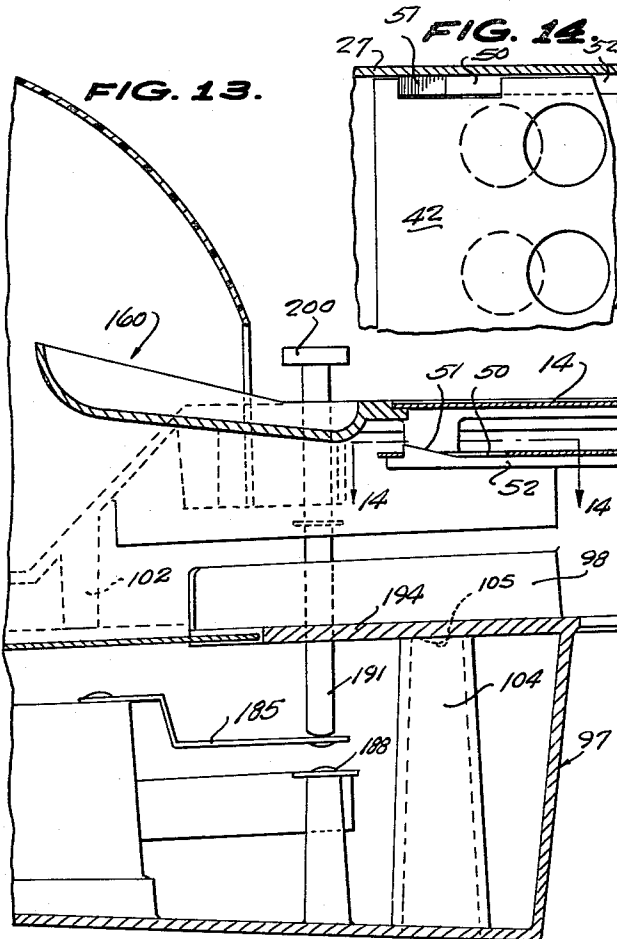


FIG. 14.

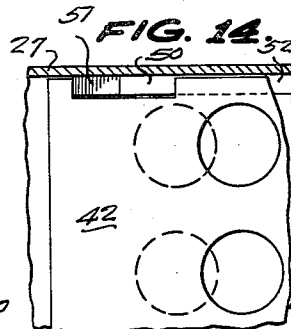
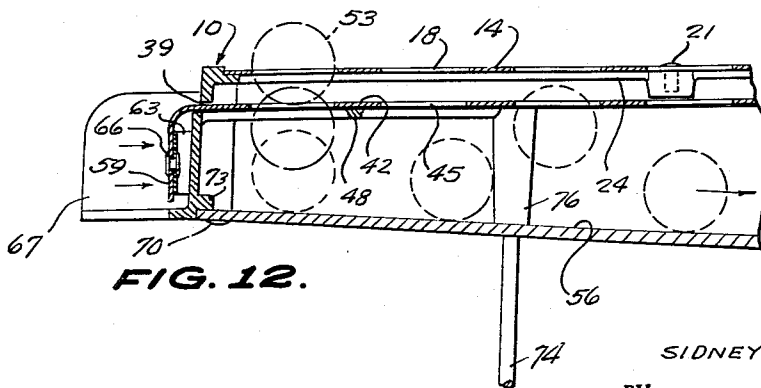


FIG. 12.



INVENTOR.
SIDNEY LANG,

BY

Albert J. Allard.
ATTORNEY.

1

3,118,677

CHANCE NUMBER SELECTOR DEVICE FOR BINGO GAMES

Sidney Lang, Jericho, N.Y., assignor to Multiple Products Corporation, New York, N.Y.
Filed Mar. 25, 1960, Ser. No. 17,664
5 Claims. (Cl. 273-144)

This invention relates to bingo games and more particularly to a device for playing bingo wherein a plurality of numbered indicated units are agitated and selected on a purely chance or random basis.

I am aware that various prior constructions in chance numbered selectors provide arrangements for tossing or agitating balls and the like which are trapped or otherwise picked off in a purely random manner, the numbers thereon then being read so that players can mark their bingo cards accordingly. However, such prior art devices require considerable manual manipulation, or are expensive to construct.

Accordingly, it is an object of the invention to provide a device having a minimum of manual manipulation and one in which entirely mechanical agitation of the numbered units is effected, while at the same time economy of manufacturing is achieved.

It is another object of the invention to provide a chance numbered selector which will be compact in size, and suitable for table top operation, and having an agitating mechanism of novel appearance and one which creates an attention arresting sound effect when in operation.

It is still a further object of my invention to provide a device of the kind described which will be relatively simple in construction and assembly and one in which a minimum of fabrication of parts is required.

Briefly, my invention contemplates a device having a major top horizontal panel provided with holder means for holding a plurality of numbered units such as plastic balls or the like, as they are selected by chance and wherein the holder means is provided with elements for permitting such units to drop below the surface of the panel by gravity for return to the agitating mechanism. While I am aware that the broad idea of providing such a holder means for the numbered units is broadly old, I believe that the particular manner in which my holder means is constructed and integrated with the rest of the machine is unique and novel.

The agitating mechanism comprises a transparent, spherically shaped dome located at an end of the top panel, substantially enclosing said end. The dome is enclosed at its bottom with a vibrational plate, itself made of resilient material, and resiliently mounted. Below the plate is an agitating means comprising a small electric motor of the battery operated type having a cam or finger which rotates in a vertical plane and repeatedly strikes the plate at a particular portion thereof to effect vibration. Such particular portions of the plate is partially severed therefrom so as to flex independently to minimize the load on the motor. Thus, rapid repeated flexing of such portion is transmitted to the plate as a whole to effect vibration thereof and random turbulence of numbered elements thereon.

An aperture is provided in the dome through which protrudes a trough into which such elements, for example, numbered plastic balls, may drop as a matter of

2

pure chance in the course of the turbulent action effected by vibration of the bottom or floor plate aforementioned. Thus, the balls may roll out of the enclosure via the trough and be picked up manually one by one, the numbers read off and then deposited on the holder means of the top panel in appropriately designated temporary storing pockets.

Other objects and features of the invention will be apparent from the detailed description to follow taken in conjunction with the appended drawing.

FIG. 1 is a plan view of the assembled machine and device.

FIG. 2 is an elevation thereof.

FIG. 3 is a section through 3-3 of FIG. 1.

FIG. 4 is a section through 4-4 of FIG. 3.

FIG. 5 is a section through 5-5 of FIG. 3.

FIG. 6 is a view of one of the number units, namely, a ball, such as a light, hollow, ping pong ball or the like.

FIG. 7 is a section through 7-7 of FIG. 3.

FIG. 8 is a section through 8-8 of FIG. 7.

FIG. 9 is a skeletonized perspective view showing a battery holding means.

FIG. 10 is a section through 10-10 of FIG. 2 showing elements of the holding means in one position for retaining the numbered unit balls.

FIG. 11 is a view similar to FIG. 10 but showing the position of the components for permitting release of the balls.

FIG. 12 is a view similar to one end of FIG. 3 to an amplified scale.

FIG. 13 is a section in elevation to an amplified scale showing the arranging of the dome housing, the trough, the top panel, a base and a switch construction; and

FIG. 14 is a section through 14-14 of FIG. 13.

Referring now to the drawings, FIGS. 1 and 2 show plan and elevations of the entire machine which comprises a major, horizontal panel 10 preferably molded of plastic, and which carries a central insert or metal plate 14 provided with a plurality of aligned rows of apertures 18. See FIG. 12 for an amplified cross-sectional view. Thus, the plate 14 may be fastened as by screws 21 to bosses provided at the edges of a large, rectangular aperture 24 of panel 10. Panel 10 is also provided with side and end flanges, for example, the side flanges 27, and end flange 30. It will be noted from FIG. 2 that the panel has a stepped configuration, thus having an upper level which carries the plate 14 and a lower level in which is inserted a spherically shaped dome 36 which is part of an agitating mechanism to be hereinafter described.

Referring again to FIG. 12, it will be noted that the end flange 30 is provided with a slot 39 in which is slidably carried a plate 42 having perforations or apertures 45, registerable with apertures 18 for a purpose to be described.

Referring to FIGS. 10 and 11, which show underside views of the construction, the plate 42 is supported and is slidable on cross ribs 48 molded integrally with panel 10 and which may be provided in any suitable plurality. Plate 42 is provided with slots such as 50 which abut respective cleats 51 (FIGS. 13, 14) to limit reciprocal motion. There is support as well on side ridges 52 of panel 10. The ridges may be molded integrally within the internal structure of the panel 10.

3

The apertures 45, which are alignable with the apertures 18 by movement of plate 42, are spaced with respect to the openings between the ribs so that, as indicated in FIG. 12, numbered units such as balls 53, e.g., 75 plastic balls or the like, as shown in FIG. 6, normally held in apertures 18, can drop through when the apertures 18 and 45 are aligned. The balls drop onto a fiberboard base 56 which is at a pitch such that gravity can cause the balls to roll in the direction of the arrow back to the dome 36 (FIG. 3). The balls may be $\frac{1}{2}$ " to $\frac{3}{4}$ " diameter.

Intermediate the flange 30 and a flange 59, formed dependently from plate 42, there is a bowed leaf spring 63 fastened as by a rivet 66 to flange 59. Referring to FIG. 10, it will be noted that the position of the leaf spring is such as to resiliently bias the plate 42 to the left, whereat the apertures are out of alignment so as to retain balls in the upper plate 14. However, as shown in FIG. 11, when the flange 59 is manually pressed in to flatten the spring, all apertures are aligned and in register, and the balls, being of slightly smaller diameter than the diameter of the apertures, can then drop through for return to the dome 36. The sides of the flange 59 are shielded against catching of players' cuffs or finger rings, etc., by side flanges 67 integrally molded of the main panel 10 and extending beyond the cross flange 30.

The fiberboard base 56 may be fastened at 70 to a ledge 73 molded internally of the main panel, and a wire support structure 74 may be secured in bosses 76 molded integrally with the main panel for supporting the outer end of the structure.

Referring to FIG. 1, it will be noted that all of the apertures in the plate 14 are designated by numbers and it will be understood in conjunction with the usual mode of playing bingo that each of the balls as shown in FIG. 6 carries a particular number imprinted thereon which, when selected by chance, in a manner to be hereinafter disclosed, are deposited in the respectively numbered apertures of the plate 14, to be held therein until someone wins in accordance with the usual rules of play, at which time plate 42 is pushed inwardly to align all apertures, permitting the balls to drop down for return by rolling along the inclined surface of the bottom of panel 56 to dome 36, as previously described.

Referring now to FIGS. 3, 4, and 5, various elevations in cross section of the machine are shown wherein it will be seen that the wire rod structure 74 is U-shaped so as to form transverse support at the outer end of the device. It will also be noted that the panel 10 is of stepped construction, having the generally horizontal area which supports plate 14 at an upper level and having a lower level generally designed by the horizontal flange 80, which encircles a large aperture 84 out of which arises the transparent dome 36. The dome 36 is wide-cut at aperture 85 to provide entrance for balls 53, and has a bottom skirt 87 (FIG. 7) and a radial flange 90 which extends to the upper edges of the walls 93 of a hollow plastic base member 97 as shown. Base member 97 is molded with ball guides 98 sloped inwardly so as to direct balls rolling down base 56 into aperture 85. The skirt 100 of this end of the main panel 10 has a lower edge resting on the outer periphery of the flange 90, which outer periphery may be thus clamped between the lower edge of the skirt member 100 and the upper edge of the wall 93. Base 97 (FIG. 2) may be molded with exterior access grooves 104 to permit access for placing screws 105 therethrough into panel 10, four such screws being preferable. The flange 90 may be fastened by four screws 101 (FIG. 1) to suitably provided projections, one indicated at 102 (FIG. 2), to panel 10, such projections being molded as part of the panel, and it will be understood that any suitable projections, lugs, or flanges may thus be used. Leaf springs 107 extend radially inwardly for attachment at respective points 110 to a flexible plastic floor plate 115, which substantially

4

encloses the bottom of the dome 36 and the outer ends of such springs may be secured by the same screws 101. At angularly spaced points, there being four such locations, slots 118 are provided through the material of the skirt of the dome and adjacent the radial flange 90 thereof. The flexible floor plate 115, which may be of suitably rigid, but flexible material, such as styrene plastic and the like, is provided with four tongues 121 as indicated in FIG. 1, which tongues will be understood to align with and protrude through respective slots 118. Thus, the plate 115 is located with respect to dome 36, but it will be noted that the height of the slots 118 is sufficient to permit up and down vibratory movement of plate 115 within limits provided by such height.

Referring to FIG. 1, it will be noted that the plate 115 shown through the broken-away portion of the dome, is provided with a portion or section 124 which is separated from the remainder of the plate by a pair of spaced, parallel severance lines 128. Thus, the section 124 can have independent flexing movement relative to the plate.

Referring now to FIGS. 7 and 8, means for effecting vibration of plate 115 comprises a motor 132 of the miniature battery operated type, which motor is suitably mounted on a bracket 136, integral with the bottom of the base housing 97. The shaft 140 of the motor carries a disk 143 keyed thereon, which disk carries a finger or cam 146 fastened thereto at 150. The fastening at 150 may be bolt or rivet, but is understood to be sufficiently loose so that, normally, centrifugal force would maintain cam 146 radially aligned with the shaft of the motor. However, the cam can yieldingly strike a wear plate 153 fastened for ready rotation as by a rivet 156 to plate 115. The wear plate 153 is carried by the independently flexible section 124.

Thus, it will be appreciated that rapid rotation of cam 146 will strike yielding blows against section 124, flexing that section upwardly, but with considerable rapidity so as to effect overall vibration of plate 115. Accordingly, inasmuch as the torque of the motor is very low and inasmuch as any strain on the motor tending to slow it down considerably tends to increase battery consumption, the yielding blow effected by element 146 against readily flexible section 124 of the overall diaphragm produces a vibratory effect of the plate 115 as a whole, yet without putting any abnormal load on the motor as would be experienced by a rigid cam striking the plate 115 and forcing it to move integrally as a whole. A very important effect of the loosely mounted cam is to prevent dead center stoppage which might jam the motor and make starting difficult or impossible.

A free, rotative connection for wear plate 153 could be used to permit the plate to be rotated to some extent each time the cam struck it so that the entire area of the plate 153 would be utilized for wear.

From the foregoing, it will be apparent that a plurality of light spheres, or balls, for example, styrofoam balls, as indicated in FIG. 7, will be agitated to turbulent condition by vibration of plate 115 carroming around within the dome housing 36, as generally indicated by the arrows. Thus, the balls are dropped into a trough 160 which may be suitably molded of plastic integrally with panel 10 and which protrudes through an aperture 164 (extending upwardly from aperture 85) into the dome 36. As particularly noted on FIG. 3, the trough 160 has a downward slant so that a ball, catching therein, will roll out of the dome to the end of the trough, where it can be picked up for placement on the holder means comprising the plate 114. The trough 160 has a portion 160a inside of the dome 136 considerably widened, leading to a narrower portion 160b exteriorly of the dome. The trough is located at about half the height of the dome so that any balls caught in the widened portion must be in turbulent action in midair in the dome. The widened portion enhances the chances of catching a ball which then rolls down to the narrow portion, as best seen in the plan view

5

of FIG. 1, so that one ball at a time is accommodated within the narrow portion for being picked up.

In order to energize the motor and control energization thereof, there is provided within the base housing 97 a battery storage compartment as best seen in FIG. 7, holding batteries such as 164. Thus, integrally molded walls 168 and 172 serve to hold metallic clips (FIG. 9) 176, 179, 182, in a manner which will be readily apparent from comparison of FIGS. 7 and 9. The clips are of resilient material in order to grip the batteries therebetween in a well known manner, to effect a series circuit. A switch arm 185 coacts with contact 188 formed of clip 179, and it will be understood that the contact at one end of the switch arm and the contact 188 are normally open. However, when pressure is applied at the end of arm 185, the contacts engage and the motor 132 is energized. Referring to FIG. 13, a switch operating rod 191 is provided, which will be understood to be slidably carried in a top wall 194 of base 197, and having a button at the upper extremity thereof. The lower end of the rod may rest on the end of arm 185, which will be understood to have sufficient stiffness to maintain the weight of the rod. If desired, of course, a spring for supporting the rod in upper or open contact position can be provided. In any event, it will be apparent that pressing button 200 will force arm 185 downwardly to effect engagement with contact 188 so as to energize the motor. By placing the switch actuating rod close to trough 160, or adjacent the trough, a convenience is effected, inasmuch as the same hand of a player can press down on the button until a ball rolls into the outer end of the trough, then release the button to pick off the ball for calling out the number and placement on the holder means.

It will be apparent from the foregoing that the action of the agitating mechanism is unique and spectacular, an important point in a playing device. Although vibration of the floor plate effects ball motion, the independently flexible flap portion of the plate will, of course, provide the most violent propulsion, the plate acting as a conveying means to keep the balls in motion so as to ensure them ultimately (as a matter of chance) being struck by the flap.

The comparatively free vibration movement of the plate due to the height of slots 118 augments the plate action and, in fact, I have found that the spring leaves 107 are not really essential for proper operation but are shown herein as being of possible utility for large machines where relative increased stiffness of the plate may be desirable.

Thus, anytime a ball is struck by the flap it will receive considerable impetus. Of course, the flap section could be located at other areas of the plate. However, the off-center position is preferable in radial alignment with the trough, the plane of motion of the flap being generally the median plane of the trough in the direction of ball rolling thereon out of the dome.

A particular point is made of the relatively simple construction of the device and ease of assembly as brought about by the trough being integrally formed of the main panel which also serves as the ball holder means wherein the trough extends through the inverted T-shaped aperture of the dome. Also, the general T shape of the trough is likewise advantageous in enabling number units to be caught more readily as they bounce around in the dome.

Although details of assembly have been omitted for clarity, it will be apparent that panel 10 (FIG. 8), flange 90 and wall 97 could be secured together by welding or cementing. However, I prefer a construction wherein flange 90 is fastened by screws to the panel while the base is likewise fastened by screws to the panel, as generally described hereinabove.

From the foregoing description, it will be apparent that the invention provides a relatively simple, compact machine for chance number selection, one which may be

6

economically manufactured, suitable for table top use, and interesting in play by virtue of automaticity of selection, as well as the sound effect, such as loud buzzing and the like which necessarily occurs by virtue of the rapid vibration of the large diaphragm 115.

Various changes and modifications may be made without departing from the spirit of the invention, and it is not thought to limit the invention to the precise disclosure hereinabove illustrated and described except as set forth in the appended claims.

I claim:

1. A chance number selector device for bingo games, comprising a dome-like housing, a plurality of loose spheres therein, said housing having a bottom plate resiliently mounted at a plurality of individual spaced points, whereby said plate is operative for vibratory actuation, and an actuating means below said plate for effecting vibration thereof operative to agitate said spheres turbulently within said housing, said housing having an aperture, a sphere-receiving trough extending through said aperture into said housing for chance catching of a sphere, whereby said sphere may roll out of said housing via said trough, said actuating means comprising an electric motor disposed below said plate, a striker cam rotatable by said motor and disposed to strike said plate to effect vibration thereof, a base supporting said housing and said plate, a vertically disposed switch-actuating rod slidably supported by said base adjacent said trough and extending upwardly therefrom and downward therein, a motor control switch below said base comprising contacts, said switch comprising a resilient contact arm having one of said contacts at an end thereof, the lower end of said rod abutting said end of said arm, said arm being normally in switch open position, whereby pressure on the upper end of said rod serves to depress said arm to close said contacts for controlling said motor.

2. In a chance number selector device, a housing, a plurality of numbered units therein, said housing having a vibratory bottom plate, means for effecting vibration thereof comprising a rotating striker element, said bottom plate having a portion partially severed therefrom, said plate being of resilient material having sufficient rigidity so as to be vibrated by vibration of said partially severed portion, said striker element being disposed for striking said portion, and a wear plate carried by said portion for engagement by said striker element.

3. In a chance number selector device, a housing having a plurality of numbered units therein, a movable plate at the bottom of said housing on which said units normally drop, and means for moving said plate comprising a rotational element, a cam loosely carried by said rotational element and rotated therewith and extending beyond the periphery thereof wherein centrifugal force normally maintains said cam in radial relation to the axis of rotation of said rotational element, said cam being disposed to strike said plate during rotation of said rotational element for effecting a yielding blow thereon by virtue of the loose connection of said cam with said rotational element.

4. A chance number selector device comprising a housing having a plurality of numbered units therein, a base for carrying said housing, said housing having a flexible floor for effecting agitation of said units, means in said base comprising an electric motor and a cam element engageable with said floor, battery carrier means in said base, a switch in said base, a push rod carried by said base and extending upwardly and outwardly thereof for effecting closure of said switch and resilient means for normally maintaining said rod in elevated position whereby said switch remains normally open.

5. A chance number selector device comprising a housing, a plurality of numbered units in said housing, a floor plate for said housing having an independently movable, hinged flap, means for effecting up and down vibration of said flap, a trough for catching numbered units as they

are propelled at random within said housing by contact with said flap, a median vertical plane of said flap being generally aligned with a median vertical plane of said trough.

References Cited in the file of this patent

UNITED STATES PATENTS

1,766,134	Lauterbach	June 24, 1930
2,121,838	Stewart	June 28, 1938

5

2,448,151
2,470,310
2,490,144
2,525,710
2,594,434
2,731,268
2,844,376

10

552,168

Noel	Aug. 31, 1948
Heyman	May 17, 1949
Masten	Dec. 6, 1949
Munves	Oct. 10, 1950
Hofsetz	Apr. 29, 1952
Raizen	Jan. 17, 1956
Purdy	July 22, 1958

FOREIGN PATENTS

Canada	Jan. 28, 1958
--------	---------------