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Averette

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[54] **SELECTING DEVICE**

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[52] **U.S. Cl.** ..... **273/138 R;** 273/120 R

[51] **Int. Cl.**[2] **A63F 7/02**

[58] **Field of Search** ..... 273/138 R, 138 A, 120 R, 273/120 A, 142 H, 142 HA, 144 R, 144 A, 144 B, 139, 115, 116, 117, 123 R, 123 A, 126 R, 126 A, 130 A, 130 C, 131 AC, 134 GB, 134 GP, 153 R, 153 S, 155; 35/2, 3, 4, 74

[56] **References Cited**

UNITED STATES PATENTS

591,146	10/1897	Stannard	273/155
772,281	10/1904	Jurado	273/120 R
1,533,252	4/1925	Koch	35/4 X
2,525,716	10/1950	Okamoto	273/138 R
2,873,119	2/1959	O'Rourke	273/138 R
2,905,474	9/1959	Jahr	273/153 R
3,488,052	1/1970	Weisbecker	273/153 R UX
3,610,628	10/1971	Promin	273/138 R

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Assistant Examiner—Arnold Kramer
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[57] **ABSTRACT**

A selecting device comprises a housing having a base stand part combined therewith as one unit to house two cylinders aligned by a suspension alignment rod in the upper part and two off bearing channel units in the lower base stand part. First and second cylinders are coaxially positioned in closely spaced relation, one above the other. Each of the cylinders is rotatably mounted for free rotation about its axis. Each of the cylinders has a plurality of ducts formed therethrough, connecting holes in the top of each cylinder to holes in the bottom of each cylinder and spaced around the periphery thereof. No upper hole is connected to the lower hole directly below it. A plurality of channels in the two off bearing units are provided at the bottom of the housing in the base stand part, each extending from the position of a corresponding hole in the shelf of the base stand part below the duct of the second cylinder to a marked position at the front of the base stand part of the housing. A ball is adapted to be dropped through any one of the holes in the top of the housing into the randomly indexed duct of the first cylinder. The ball passes through the duct of the first cylinder into a randomly indexed duct of the second cylinder, under the duct of the first cylinder. The ball then passes through the duct of the second cylinder and through the hole in the shelf of the base stand part underlying the duct of the second cylinder and is received by one of the two off bearing channel units under the holes in the shelf of the base stand part. The off bearing channel units convert the circular fixed number arrangement of the cylinder ducts and the holes in the shelf of the base stand part to a straight line arrangement at the lower front of the base stand part, resulting in another number being the end result.

5 Claims, 7 Drawing Figures

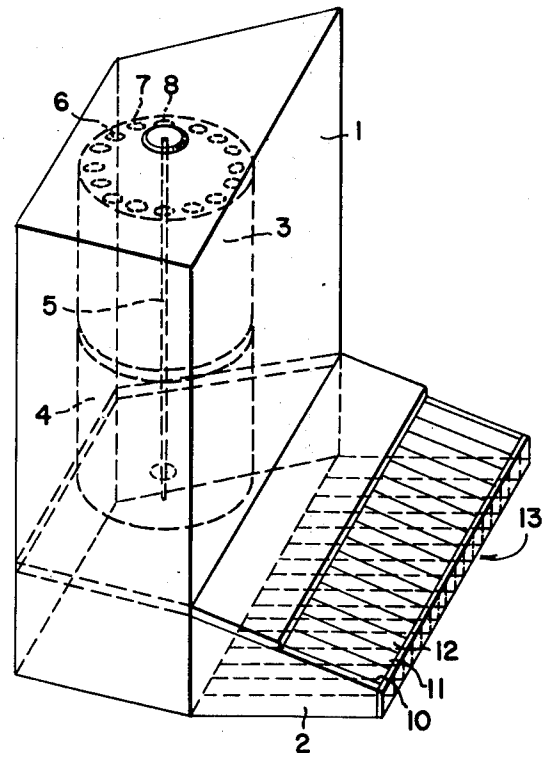


FIG. 1

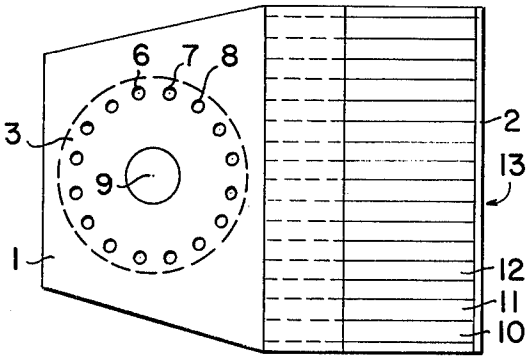


FIG. 5

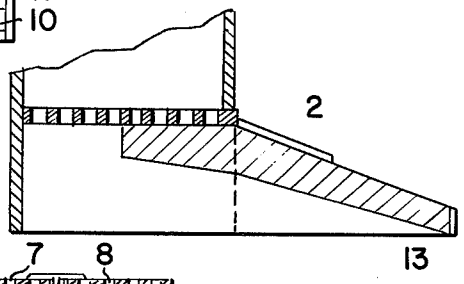


FIG. 4

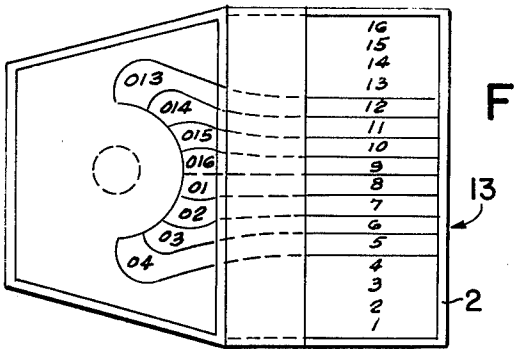


FIG. 2

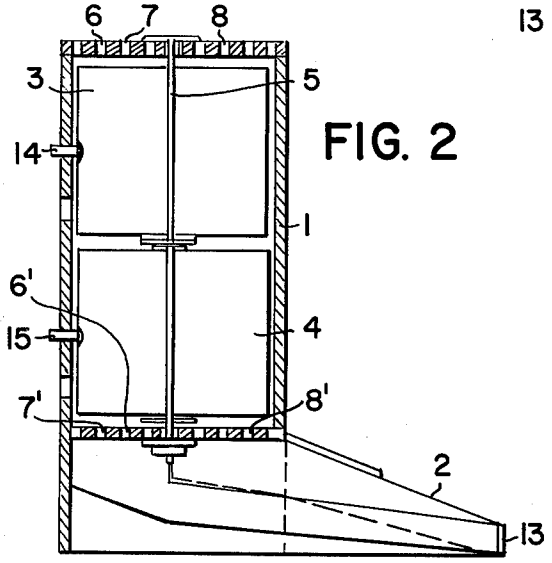


FIG. 3

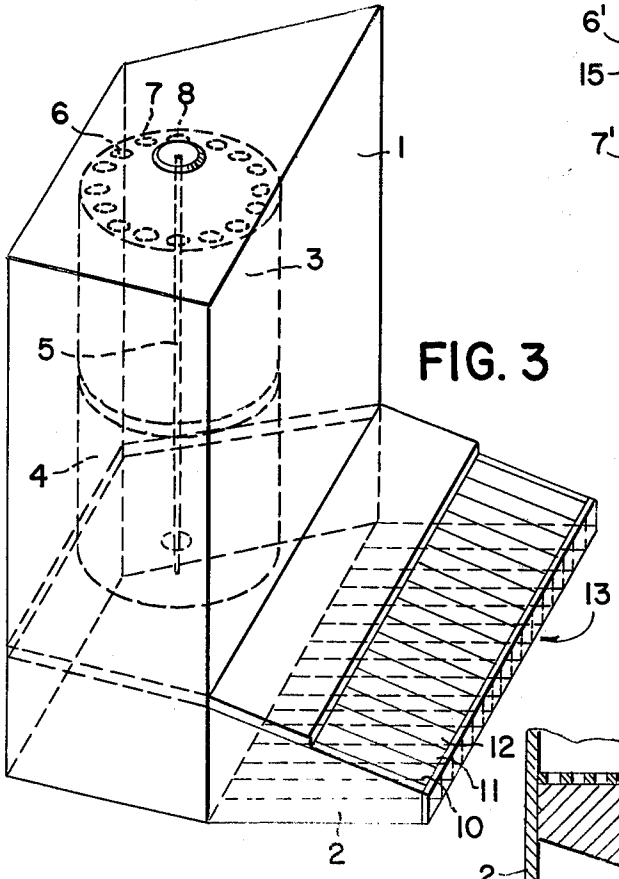


FIG. 6

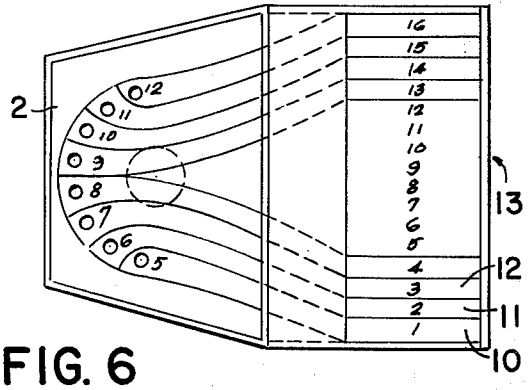
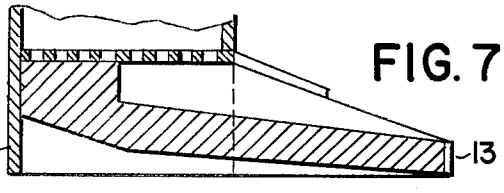


FIG. 7



SELECTING DEVICE

DESCRIPTION OF THE INVENTION:

The present invention relates to a selecting device.

Objects of the invention are to provide a selecting device which is used with facility and convenience by children and adults and which has a great number of recreational game functions and operations, thereby providing recreation, amusement, interest and excitement.

In order that the invention may be readily carried into effect, it will now be described with reference to the accompanying drawing, wherein:

FIG. 1 is a top view of an embodiment of the selecting device of the invention;

FIG. 2 is a side view, partly in section, of the embodiment of FIG. 1;

FIG. 3 is a schematic diagram of the selecting device of the embodiments of FIGS. 1 and 2;

FIG. 4 is a top view of the off bearing channel unit for the holes 1 – 4 and 13 – 16 located under the front half of the cylinder and beneath the shelf of the base stand part of the selecting device and is a view of the embodiment of FIGS. 1 to 3, taken in a selected horizontal plane;

FIG. 5 is a side view of the base stand part of FIG. 4, taken in a selected vertical plane;

FIG. 6 is a top view of the off bearing channel unit for the holes 5 – 12 located at the back of the housing beneath the shelf of the base stand part of the selecting device and is a view of the embodiment of FIGS. 1 and 3, taken in a selected horizontal plane; and

FIG. 7 is a side view, partly in section, of the base stand part, taken in another vertical plane.

In the FIGS., the same components are identified by the same reference numerals.

The selecting device of the invention comprises a housing 1 having a base stand part 2 combined with the housing as one unit to house two cylinders 3 and 4. The cylinders 3 and 4 are aligned by a suspension alignment rod 5 in the upper part 1 of the unit. The lower, or base stand, part 2 of the unit houses two off bearing channel units, not numbered but shown in the lower portion of FIGS. 5 and 7. The broken line circle in each of FIGS. 4 and 6 is the head of the suspension alignment rod 5.

The sixteen small solid circles inside the larger dotted circle are the holes in the top of the housing. The dotted circle represents the top of the upper cylinder 3 which is positioned directly below the top of the housing with all sixteen holes being aligned by the suspension alignment rod. The head of the rod is above the housing and is represented by the solid line circle in the center of the larger dotted circle.

The first cylinder 3 and the second cylinder 4 (FIGS. 2 and 3) are coaxially positioned in closely spaced relation, one above the other. Each of the cylinders 3 and 4 is rotatably mounted for free rotation about its axis. The axes of the cylinders are coaxial with that of the suspension alignment rod 5 (FIGS. 2 and 3), affixed in the housing 1. The cylinder 3 is suspended on and aligned by the suspension alignment rod 5. The cylinder 4 is aligned by the suspension alignment rod 5, but rests on a bearing between it and the shelf of the base stand part.

Each of the cylinders 3 and 4 has 16 ducts, which are not numbered on the drawings but which align with the

16 holes in the top of the housing 1 and the shelf of the base stand part 2. The reference numerals 6, 7, 8 and 6′, 7′, 8′ represent some of the sixteen holes in the top of the housing and the shelf of the base stand part. The ducts inside the cylinders are not shown in order to maintain the clarity of illustration, since the ducts wander from one place at the top to a quite different place at the bottom. The ducts, therefore, coincide with the holes 6, 7, 8, and so on, and 6′, 7′, 8′, and so on, (FIGS. 1, 2 and 3) and substantially vertically connect the sixteen holes in the top of each cylinder to the sixteen holes at the bottom of each cylinder and spaced around the periphery thereof. No upper hole is connected to the lower hole directly below it. The cylinders and rod have an axis 9 (FIG. 1).

A plurality of channels 10, 11, 12, and so on (FIGS. 1, 3, 4 and 6) are provided in two off bearing channel units of eight channels each, under the shelf of the base stand part 2. Each of the channels 10, 11, 12, and so on, extends from a hole 6′, 7′, 8′, and so on, in the shelf of the base stand part 2 and a corresponding duct in the lower cylinder 4 to a marked position at the front 13 (FIGS. 1 to 7) of the base stand part 2 of the housing.

The suspension alignment rod 5 has a large head which rests on the top of the housing with the rod portion passing through a small hole in the top of the housing. The rod 5 keeps all the holes and ducts in proper alignment. The first cylinder 3 is suspended on the rod 5. The second or lower cylinder 4 rests on a bearing on the shelf of the base stand part, as shown.

The end result positions of the cylinder 4 are converted by the off bearing channel units shown in FIGS. 5 and 7 after the ball passes through the hole in the shelf of the base stand part 2 into the channel of the off bearing channel unit. The ball comprises steel, glass, plastic, or any other suitable material. The conversion of the duct and corresponding hole number to end result channel number, as shown in FIG. 4, is 1 to 8, 2 to 7, 3 to 6, 4 to 5, 13 to 12, 14 to 11, 15 to 10, 16 to 9. The end result conversion of the duct and corresponding hole number to end result channel number, as shown in FIG. 6, is 5 to 1, 6 to 2, 7 to 3, 8 to 4, 9 to 13, 10 to 14, 11 to 15, 12 to 16. This provides one more scrambling and also facilitates construction.

The top of the housing is solid except for the small hole that the suspension alignment rod 5 passes through and the sixteen small holes arranged in a circle, through which the ball is dropped, under which the cylinders are aligned, and with which the sixteen holes in the shelf of the base stand part, on which the lower cylinder 4 rests, are aligned.

Only the end result of the off bearing channel units are shown. FIGS. 6 and 7 show how the off bearing channel for the holes 5 – 12 slants from back to front and how it is curved to go around the off bearing channel unit for holes 1 – 4 and 13 – 16, shown in FIGS. 4 and 5. The two off bearing units interlock, so to speak, so that there is a clean orderly arrangement of channels in the base stand part. The lower part of FIG. 2 shows how the two off bearing channel units interlock and slope so that they both deliver the ball to the front 13 of the lower case on an equal level.

The small dotted circle around the bottom of the suspension alignment rod 5 is the bearing between the lower cylinder 4 and the shelf of the base stand part.

The ball (not shown in the FIGS.) is adapted to be dropped through a hole in the top of the housing 1 into

a corresponding random duct **6, 7, 8,** and so on, of the first cylinder **3.** The ball passes through the duct of the first cylinder **3** into a random duct of the second cylinder **4** under the duct of the first cylinder, through the corresponding hole **6′, 7′, 8′** in the shelf of the base stand part, under the duct of the second cylinder into the channel **10, 11, 12,** and so on, which also converts the number to that of the marked position on the front of the base stand part **13.**

FIG. **5** shows the holes in the shelf of the base stand part on which the lower cylinder **4** rests and the off bearing channel unit for the holes **1 – 4** and **13 – 16** located under the front half of the cylinder and under the shelf of the base stand part.

FIG. **7** shows the holes in the shelf of the base stand part on which the lower cylinder **4** rests and the off bearing channel unit for the holes **5 – 12** located under the back half of the cylinder circle and under the shelf of the base stand part.

A pair of friction stop indexing units **14** and **15** (FIG. **2**) are provided. Each of the friction stop indexing units **14** and **15** is mounted in the housing in operative proximity with a corresponding one of the cylinders **3** and **4** to stop and align the corresponding cylinder an undetermined period of time after it is rotated about its axis by a finger of a player placed through a rotation hole shown, but not numerically designated, in the FIGS. located in the back of the housing approximately two inches below the friction stop indexing unit, prior to the dropping of the ball.

The friction stop indexing units **14** and **15** keep the cylinders **3** and **4** aligned with the holes **6, 7, 8** and **6′, 7′, 8′,** respectively, in the top and shelf of the base stand part. The indentations in the cylinder walls that the friction stop indexing units stop in to align the cylinders are not all shown. Only the indentation in which the friction stop indexing unit has come to rest is shown in the FIGS.

The rotation holes providing access to rotate the cylinders are shown in the back of the housing, and are approximately two inches below the friction stop indexing units.

The selectiing device of the invention is used to provide random numbers from **1** to **16** as an end result.

The selecting device of the invention operates as follows. A number is selected from 1 – 16 by use of a **16** position spinner selector. The first cylinder **3** is rotated in either direction by placing a finger through the rotation hole located in the back of the housing approximately two inches below the friction stop indexing units **14** and **15.** The first cylinder **3** is permitted to stop by friction and be aligned. The ball is then dropped through the selected hole in the top of the housing. The ball enters the duct directly below it in the top of the first cylinder **3.** The number of the duct may or may not be the same.

The ball comes out of the bottom of the first cylinder **3** and goes into the duct directly below it in the top of the second cylinder **4.** The ball comes out of the second cylinder **4** and goes through a hole in the shelf of the base stand part **2,** where it enters a channel of one of the two off bearing channel units which carries it to the lower front part **13** of the base stand part **2.** The ball is simultaneously converting the circular fixed number arrangement of the off bearing channel units to a straight line arrangement at the lower front part **13** of the base stand part **2.** That is,

Circular number:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
Straight line arrangement No.:	8, 7, 6, 5, 1, 2, 3, 4, 13 14, 15, 16, 12, 11, 10, 9

The numbers across the top of Chart A, the cylinder **3** and the Chart B, the cylinder **4,** represent the fixed top hole positions in the housing. The left hand row of numbers represents the **16** variable positions that the first cylinder **3** and the second cylinder **4** may take on under the fixed top positions. The ducts of the cylinders, which represent the left hand row or numbers, are constants of the cylinder when it is considered as a separate unit. Once either cylinder is rotated from its set position of its number **1** duct under the number **1** hole in the top of the housing, the cylinder's numbers become variable. The figures in the body of the chart are the fixed position end results of the ball passing only through the cylinder **3,** the Chart A or the cylinder **4,** the Chart B. The end result of the upper cylinder **3** is the fixed starting position for the lower cylinder **4.**

An example may be illustrated via the cylinder charts. The spinner selector is spun and the number 12 is selected. The upper cylinder **3** is rotated in either direction. Since the cylinders are totally enclosed, no one can see on what number it stops. It is assumed that the cylinder **3** stops with its number **4** under the number **12** fixed top hole position. The lower cylinder **4** is rotated and stops. Assume that it stops with its number **7** hole under the fixed top hole position number **14.**

The ball is dropped into the fixed top hole position number **12.** The number **12** in the row across the top of the Chart A. The number 4 in the left hand column of the Chart A represents the position of the upper cylinder **3** under the number 12 fixed top hole position. The fixed top hole position number is always used as the reference point for each of the 16 variable positions of the cylinder that are listed in the left hand column. The ball goes through the fixed top hole position number 12 and drops into the number **4** hole at the top of the upper cylinder **3** which is directly under the fixed top hole position number 12 and comes out of the upper cylinder **3** at the fixed top hole position number 14.

If an imaginary line is drawn on the Chart A from the number **4** in the left hand column across the page and another line is drawn down the page from the fixed top hole position number 12 at the top of the chart, the number 14 is found where the two lines intersect. This is the fixed top hole position where the ball comes out of cylinder **3.** The ball enters the lower cylinder **4** at the fixed top hole position number 14, which is the cylinder **4** hole number 7, as in the example. The end result of the cylinder **4** is the fixed top hole position number 4, as seen in the Chart B. If one comes across from the number 7 and down from the number 14, the number 4 is at the intersecting point.

The ball then passes through the number 4 fixed hole position in the shelf of the base stand part 2 and enters the off bearing channel unit, channel number **4,** which is a circular position, and is converted to the straight line arrangement number 5 by the time it stops against the clear plastic front plate **13** (FIG. **4**).

The selecting device can be a family game at home. The device is used the same as a pair of dice to develop games within itself. It can be used for games of speed by children too young to understand various scoring

games. They both drop a ball in a different hole in the top of the housing at the same time and one will come out and hit the clear plastic end plate **13** first.

Players can alternate turns with any number of players to see who can get all 16 numbers first in any order in the game "Speedster." A variation of this is "Rotation," where each player tries to get all 16 numbers in consecutive order from 1 to 16.

"Agitation" is a game that can be played by four players as two teams or it can be played by any number of players as individuals. Players alternate turns as either Even or Odd number players. If an Odd player gets an Odd number, he gets 10 points.

The cylinders **3** and **4** are rotated and another player gets a turn. A starting hole is selected and the ball is dropped. If the Even player gets an Even number, he gets 10 points. If he gets an Odd number, he has the choice of subtracting 5 points from any Odd player's score or trying again. On his second try, which starts with a new starting hole being selected and the cylinders again being rotated, he gets 10 points for an Even number. If he gets an Odd number, he has to subtract **10** points from his own score. The opposite applies to an Odd player if he gets an Even number and takes a second try. A player thus has the possibility of gaining 5 or 10 points on his opponent or losing 10 points to him. Eventually one player will reach 100 points and win.

A person familiar with gamesmanship may develop many games with the selecting device of the invention.

The size of the unit depends on whether it has the full **16** duct cylinders and the method of construction.

The cylinders are built in accordance with the most practical and economical way to produce them. Each cylinder unit might possibly be made in one or two solid parts by modern plastic equipment.

The upper cylinder **3** is suspended on the suspension alignment rod **5.** This permits the lower cylinder **4** to turn freely and independently on the bearing between it and the shelf of the base stand part **2,** with the suspension alignment rod **5** as its axis. Each cylinder is reversible and interchangeable, so that other new number combinations can be obtained. Other cylinders with other duct arrangements may be substituted for the originals. All that is necessary to change a cylinder is to remove the top of the housing **1.** After the top is opened, the cylinder **3** is extracted from the housing and the suspension alignment rod **5** is extracted from the cylinder **4.** The cylinder **4** is then free to be reversed or removed. To reverse or remove the cylinder **3** from the suspension alignment rod **5,** the unit extracted from the housing is positioned upside down and the keeper pin is removed from the suspension alignment rod. The cylinder **3** is then ready to be removed and replaced or reversed. The opposite procedure is used to replace the extracted cylinder.

The **16** upper and lower holes in the cylinders are aligned perfectly, with the **16** holes in the stationary top of the housing **1** and the shelf of the base part **2** by means of the suspension centering rod **5** and the friction stop indexing units **14** and **15.**

No duct connects an upper hole of a cylinder to the hole directly below it.

The Charts A and B show the result of using each cylinder in all its positions in relation to the number of fixed top hole position. The combination provided for the duct system of each of the cylinders does not provide an absolutely perfect random selection of each number from 1 to 16 at every position. This is mathematically impossible, because no top hole in the cylinder is connected directly to the corresponding hole in the bottom of the cylinder. This is explained with reference to the Chart A.

As seen in the Chart A, when the number **1** hole of the cylinder, in the left hand column, is under the fixed top hole position number 1 of the top row, the result is number 9. The same result is obtained if the number 11 hole of the cylinder is positioned under the fixed top hole position number 1. Again, the result is number 9. The number 1 is never the result when the number 1 of the cylinder **3** is positioned under the number **1** fixed top hole position. Consideration of the second vertical row of numbers provides verification of the example and foregoing explanation. This means that some other number must be obtained. Therefore, in each row of numbers, the result of two like numbers being under each other will not be an identical number. When the number 2 of the cylinder **3** is under the fixed top hole position number 2, the result number will not be **2.** It turns out to be **15** and the number 10 is duplicated to replace the number 2 that can't be used. This is true all across the Charts. Both the Charts A and B will show the same thing happening every time.

The device could be made completely out of clear plastic so that people could see the ball travel its winding course from top to finish.

CHART A

CHART FOR FIRST CYLINDER 3

Top row of numbers represents fixed positions of Top

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	9	13	16	5	15	11	10	7	2	14	3	8	4	12	1	6
2	12	15	4	14	10	9	6	1	13	2	7	3	11	16	5	8
3	14	3	13	9	8	5	16	12	1	6	2	10	15	4	7	11
4	2	12	8	7	4	15	11	16	5	1	9	14	3	6	10	13
5	11	7	6	3	14	10	15	4	16	8	13	2	5	9	12	1
6	6	5	2	13	9	14	3	15	7	12	1	4	8	11	16	10
7	4	1	12	8	13	2	14	6	11	16	3	7	10	15	9	5
8	16	11	7	12	1	13	5	10	15	2	6	9	14	8	4	3
9	10	6	11	16	12	4	9	14	1	5	8	13	7	3	2	15
10	5	10	15	11	3	8	13	16	4	7	12	6	2	1	14	9
11	9	14	10	2	7	12	15	3	6	11	5	1	16	13	8	4
12	13	9	1	6	11	14	2	5	10	4	16	15	12	7	3	8
13	8	16	5	10	13	1	4	9	3	15	14	11	6	2	7	12
14	15	4	9	12	16	3	8	2	14	13	10	5	1	6	11	7
15	3	8	11	15	2	7	1	13	12	9	4	16	5	10	6	14
16	7	10	14	1	6	16	12	11	8	3	15	4	9	5	13	2

Interior numbers represent fixed position for end of first cylinder 3 and starting fixed numbers for second cylinder 4.

CHART B

CHART FOR SECOND CYLINDER 4

Top row of numbers represents fixed positions of top

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	8	12	15	10	13	7	6	5	1	3	16	14	11	9	2	4
2	11	14	9	12	6	5	4	16	2	15	13	10	8	1	3	7
3	13	8	11	5	4	3	15	1	14	12	9	7	16	2	6	10
4	7	10	4	3	2	14	16	13	11	8	6	15	1	5	9	12
5	9	3	2	1	13	15	12	10	7	5	14	16	4	8	11	6
6	2	1	16	12	14	11	9	6	4	13	15	3	7	10	5	8
7	16	15	11	13	10	8	5	3	12	14	2	6	9	4	7	1
8	14	10	12	9	7	4	2	11	13	1	5	8	3	6	16	15
9	9	11	8	6	3	1	10	12	16	4	7	2	5	15	14	13
10	10	7	5	2	16	9	11	15	3	6	1	4	14	13	12	8
11	6	4	1	15	8	10	14	2	5	16	3	13	12	11	7	9
12	3	16	14	7	9	13	1	4	15	2	12	11	10	6	8	5
13	15	13	6	8	12	16	3	14	1	11	10	9	5	7	4	2
14	12	5	7	11	15	2	13	16	10	9	8	4	6	3	1	14
15	4	6	10	14	1	12	15	9	8	7	3	5	2	16	13	11
16	5	9	13	16	11	14	8	7	6	2	4	1	15	12	10	3

Interior numbers represent fixed positions for end of second cylinder 4 and starting fixed numbers for the base stand part 2.

While the invention has been described by means of a specific example and in a specific embodiment, I do not wish to be limited thereto, for obvious modifications will occur to those skilled in the art without departing from the spirit and scope of the invention.

I claim:

1. A playing element drop chance selecting device, comprising

a base supporting an upstanding closed housing;

a plurality of substantially coaxially aligned upstanding cylinders mounted within the housing, each of the cylinders being independently rotatably mounted for rotation about its axis;

a plurality of substantially vertically aligned holes through the top and bottom ends of the housing, the holes being substantially equianguarly arranged in a circular array;

means in the housing whereby the cylinders may be individually rotated;

index means for each of the cylinders, each of the cylinders having a plurality of openings in the top and bottom surfaces thereof corresponding to the vertically aligned holes in the housing at any indexed position of the cylinders;

a plurality of ducts in each of the cylinders connecting the top and bottom openings of each respective cylinder, with no duct connecting the top opening of a cylinder to the bottom opening positioned directly below it;

a plurality of channels in the base, one end of each channel underlying a respective hole in the bottom of the housing; and

a playing element adapted to be dropped through any one of the top housing holes after the cylinders have been rotated and indexed whereby the discharge of the playing element into one of the underlying channels is dependent upon its gravity travel through the ducts of the cylinders as chance indexed with respect to each other.

2. A playing element drop chance selecting device as claimed in claim **1**, wherein the playing element is a ball.

3. A playing element drop chance selecting device as claimed in claim **1**, wherein the index means for each cylinder comprises a friction stop indexing unit in operative proximity with indentations in the cylinder for stopping and aligning any of the openings of the cylinder with any of the holes in the top of the housing.

4. A playing element drop chance selecting device as claimed in claim **1**, the rotatable mounting comprising a suspension alignment rod mounted in the housing, and wherein two of said cylinders are rotatably mounted on the rod in the housing.

5. A playing element drop chance selecting device as claimed in claim **4**, wherein when the playing element is dropped into any of the holes in the top of the housing it passes into a duct of the upper one of the cylinders randomly indexed with respect thereto, and through this duct into the duct of the lower one of the cylinders randomly indexed with respect thereto, and through the duct of the lower one of the cylinders to exit through the hole therebelow in the bottom of the housing and into its associated channel in the base.

* * * * *