

**DEVICE FOR FACILITATING THE MIXING OF BALLS IN DRUMS OF
RECREATIONAL MACHINES**

Object of the Invention

5 The present invention relates to a device for facilitating the mixing of balls in drums of recreational machines, specifically recreational machines of chance intended for giving prizes to the participants.

10 The object of the invention is to facilitate and therefore achieve optimal mixing of the balls participating inside the drum of gaming machines to assure that all the balls participating inside the drum have the same opportunities to come out through the corresponding opening for the individual falling of balls.

15 Background of the Invention

 In the scope of practical application of the invention, recreational machines of chance are known which include an automatic whirling device with the ability to mix and identify balls, comprising a frame provided with support means for a drum, within which a plurality of balls is introduced, provided with a central rotational shaft provided with drum driving means, and in which radial blades are arranged for mixing the balls, such that the mentioned drum incorporates an opening for translation located in the bisector of the rotational shaft of the drum associated with a ball display-collecting mechanism or assembly suitable for being attached to the drum in the area of said opening, having a small display basket outside the drum the mouth of which is opposite the mentioned opening and is suitable for collecting a ball from the drum when said small basket, and accordingly the drum, reach the lowermost position, such that in opposition to said lowermost point the machine has ball reading means for identifying and subsequently returning said ball to the drum.

35 The existence of the mentioned shaft in the middle area of the drum makes it an obstacle for the mixing of the balls,

which has a negative effect on the mixing thereof.

It has been experimentally found that when the small basket is located at its uppermost point, the balls, which can be seen at all times, located on the sides of the drum have very few possibilities of falling into the small basket and therefore receiving a prize, such that the player will never bet on these balls, increasing the possibilities of success in the game, unlike the "theoretical" probabilities for which the machine was designed with the subsequent negative effect this entails.

Related examples of prior-art can be found for instance in EP 2665046 and US 5419557.

Description of the Invention

The proposed device is precisely provided for facilitating the mixing of balls in drums of recreational machines, such that as it can be applied to any type of drums used in recreational machines having a rotational shaft, a small basket for receiving each ball as it exits, sensors for detecting the position of the drum, etc., it has the particularity that the device itself consists of a preferably rigid or semi-rigid diametrical part mounted such that it can freely pivot through its ends, at respective diametrically opposed points on the rotational shaft of the drum of the recreational machine, such that said part initially has an essentially rectangular laminar configuration with a slight convergence of its side edges and notches in its lower edge corresponding to passages for the balls, such that when the part or device is mounted in a pivoting but free manner, the thrust from the balls themselves make it move to one side and to the other side, thereby achieving better mixing of the balls participating in the game, specifically inside the drum.

The rigid or semi-rigid laminar part making up the device for facilitating the mixing of balls can be opaque or transparent, being opaque in order to prevent seeing the balls inside the drum and being transparent to allow seeing such balls and therefore avoid any suspicion that "cheating" is possible in the development of the game.

The device or laminar part will preferably be transparent.

Description of the Drawings

To complement the description that will be made below and for the purpose of aiding to better understand the features of the invention according to a preferred practical embodiment thereof, a set of illustrative and non-limiting drawings is attached as an integral part of said description, wherein the following is depicted:

Figure 1 shows a front view of the part making up the device object of the invention.

Figure 2 shows a view of the mounting of the part depicted in the preceding figure inside a drum with balls corresponding to a recreational machine of chance.

Figure 3 shows another view, the device or part making up said device being seen from the side in this case, indicating the free pivoting that the device may have with arrows when it is suspended at two diametrical points of the drum in an articulated manner.

Preferred Embodiment of the Invention

As can be seen in the mentioned drawings, the device of the invention consists of a horizontally long laminar part (1), in the form of a plate, which can be made of any rigid or semi-rigid material, and having a configuration that can be considered essentially rectangular, having the ends thereof projections (2) at one of the edges thereof considered to be the upper edge, making up means for the pivoting and free mounting on two diametrical points (4) of a drum (3) in correspondence with the rotational shaft thereof, said drum (3) internally including balls (5) participating in the development of a game of a recreational machine of chance, as is conventional, and in which a small basket (8) for receiving each ball (5) when said ball (5) is located opposite an exit opening which is attached to the side surface of the drum (3) itself is included, as is also conventional.

In any case, the part (1) of the device has sides with a converging shape (6) so as to fit with the inner curvature of the drum (3), whereas the lower edge thereof has a pair of notches (7) with an approximately semicircular shape for allowing the passage therethrough of the corresponding balls (5) participating in the game, specifically inside the drum (3) intended for being turned over so that the balls (5) are suitably mixed and have the same possibilities of coming out towards the small collection basket (8).

Therefore, as a result of the fact that the part (1) has a diametrical arrangement as shown in Figure 2, inside the drum (3) and in accordance with the free pivoting mounting by the ends (2) of said part (1) of the device, said device can pivot to one side or the other without any problem of any type, said pivoting being established by the balls (5) themselves by being thrust against the part (1) of the device, such that the notches (7) allow some of the balls (5) to pass under the part (1) of the device and other to hit against the surface thereof in order to thereby achieve optimal mixing of the balls (5) inside the drum (3), which is sought in recreational machines of chance, and specifically in the drums the prizes in which are rewarded by balls (5) entering the lower small collection basket (8) for collecting each ball (5).

As discussed above, the part (1) of the device is preferably transparent so as to allow seeing the balls (5) inside the drum (3) and preventing any clients or participants in the game from suspecting that there may be any tampering or cheating of any kind, although it is not ruled out that said part (1) of the device may be opaque, which prevents seeing the balls (5) located on the other side of said part (1) of the device.

CLAIMS

1. A device for facilitating the mixing of balls in drums of recreational machines, said device comprises a horizontally long laminar part, in the form of a plate, characterized in that said laminar part has a free pivoting mounting provided at the ends thereof with means for attaching inside a corresponding drum in an articulated or pivoting manner, according to a rotational shaft of said drum, wherein said laminar part pivots freely to one side or the other side, wherein pivoting being established by the balls themselves by being thrust against the laminar part.
2. The device for facilitating the mixing of balls in drums of recreational machines according to claim 1, wherein the horizontally long laminar part has an essentially rectangular configuration, the side edges of which have a convergence so as to fit with the inner curvature of the drum, whereas the lower edge is provided with notches which are suitable in terms of the shape and size thereof for allowing the balls housed in the drum to pass therethrough.
3. The device for facilitating the mixing of balls in drums of recreational machines according to the preceding claims, wherein the horizontally long laminar part making up the device is made of a transparent material.
4. The device for facilitating the mixing of balls in drums of recreational machines according to claims 1 and 2, wherein the horizontally long laminar part making up the device is made of an opaque material.