CLAIMS:

1. A ball guide (1) having a body for accommodating and guiding balls (2) of a predefined size along a predefined path (12) which is defined by the body, characterized by at least one vibration transmitter (11) is which is connected to the body so as to transmit vibrations; and wherein
the body has a number of guide rods (13) which run along the predefined path (12) and are at an, in particular parallel, distance from one another and/or are curved and surround the predefined path (12) in such a way that a ball (2) of the predefined size can be guided along the predefined path (12) between the guide rods (13); and wherein
the vibration transmitter (11) is connected, in particular screwed, to an, in particular metal, strut (16) so as to transmit vibrations, and the strut (16) is connected, in particular screwed, to the body, in particular to one of the guide rods (13), and possibly passes through it.

2. The ball guide as claimed in claim 1, characterized in that the vibration transmitter is formed by an eccentric motor or unbalance motor (110), wherein an eccentric weight (111) is preferably arranged on the shaft (112) of the eccentric motor or unbalance motor (110) on the output shaft (112) thereof.

3. The ball guide as claimed in claim 1 or 2, characterized in that the guide rods (13) run parallel to one another and define the predefined path (12), and/or in that the guide rods (13) are firmly held in relation to one another at a number of positions (14), which are predefined along the predefined path (12) and are spaced apart, in particular uniformly, along the predefined path (12), by cross-connections (15), wherein the cross-connections (15) preferably have a central recess for feeding through a ball (2).

4. The ball guide as claimed in claim 3, characterized in that the vibration transmitter (11) or the vibrating part (111) of the vibration transmitter (11) is connected to one of the cross-connections (15) so as to transmit vibrations.

5. The ball guide as claimed in one of the preceding claims, characterized in that the body is tubular and, in particular, transparent, and is preferably composed of transparent plastic, wherein the path (12) runs in the interior of the body.

6. The ball guide (1) as claimed in one of the preceding claims, characterized by a unit for establishing that a ball (2) has become stuck in the ball guide, wherein the unit activates the vibration transmitter (11) when it is established that a ball (2) has become stuck.

7. The ball guide (1) as claimed in one of the preceding claims, characterized in that the vibration transmitter (11) is set to a frequency which corresponds to the resonant frequency (fR) of the ball guide (1).

8. A ball drawing machine (4) comprising a drawing unit (3), in particular in the form of a drawing drum, for accommodating and randomly selecting balls (2) and also comprising at least one ball guide (1) as claimed in one of the preceding claims for discharging drawn balls (2) from, or for supplying balls (2) to, the drawing unit (3).

9. A method for guiding balls (2) in a ball guide (1), in particular as claimed in one of claims 1 to 9, characterized in that at least one ball (2) is guided and/or moved in the ball guide (1), and the ball guide (1) is made to vibrate or oscillate.

10. The method as claimed in claim 9, characterized in that the resonant frequency (fR) of the ball guide (1) is determined by calibration in advance and the ball guide (1) is subjected to oscillation or vibration at the resonant frequency (fR).

11. The method as claimed in claim 9 or 10, characterized in that, during the movement of the ball (3) in the ball guide (1), a check is made to determine whether a ball (3) is stuck in the ball guide (1), and the ball guide (1) is made to vibrate or oscillate only if the ball (3) becomes stuck in the ball guide (1).

CLAIMS:

1. Ball drawing machine comprising:
a drawing unit for accommodating and randomly selecting balls, comprising:
at least one ball guide for discharging drawn balls from, or for supplying balls to, the drawing unit; wherein;
the ball guide having a body for accommodating and guiding balls of a predefined size along a predefined path being defined by the body, wherein at least one vibration transmitter is connected to the body so as to transmit vibrations; and wherein
the body has a number of guide rods which run along the predefined path and are at a distance from one another and surround the predefined path in such a way that a ball of the predefined size can be guided along the predefined path between the guide rods; and wherein
the vibration transmitter is connected to a strut so as to transmit vibrations, and the strut is connected to the body.

2. The ball drawing machine as claimed in claim 1, wherein the vibration transmitter is formed by an eccentric motor, wherein an eccentric weight is arranged on an output shaft of the eccentric motor.

3. The ball drawing machine as claimed in claim 1, wherein the guide rods run parallel to one another and define the predefined path, and/or in that the guide rods are firmly held in relation to one another at a number of positions, which are predefined along the predefined path and are spaced apart, along the predefined path, by cross-connections, wherein the cross-connections have a central recess for feeding through a ball.

4. The ball drawing machine as claimed in claim 3, wherein the vibration transmitter or a vibrating part of the vibration transmitter is connected to one of the cross-connections so as to transmit vibrations.

5. The ball drawing machine as claimed in claim 1, wherein the body is tubular and is transparent composed of transparent plastic, wherein the path runs in the interior of the body.

6. The ball drawing machine as claimed in claim 1, wherein the ball guide comprises a unit for establishing that a ball has become stuck in the ball guide, wherein the unit activates the vibration transmitter when it is established that a ball has become stuck.

7. The ball drawing machine as claimed in claim 1, wherein the vibration transmitter is set to a frequency which corresponds to a resonant frequency (fR) of the ball guide.

8. A method for guiding balls in a ball drawing machine as claimed in claim 1, wherein at least one ball is guided and/or moved in the ball guide, and the ball guide is made to vibrate or oscillate.

9. The method as claimed in claim 8, wherein a resonant frequency (fR) of the ball guide is determined by calibration in advance and the ball guide is subjected to oscillation or vibration at the resonant frequency (fR) determined.

10. The method as claimed in claim 8, wherein during the movement of the ball in the ball guide, a check is made to determine whether a ball is stuck in the ball guide, and the ball guide is made to vibrate or oscillate only if the ball becomes stuck in the ball guide.