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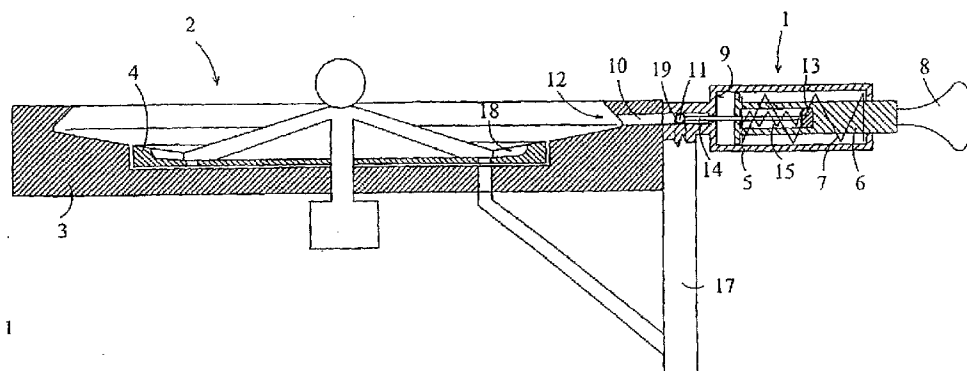


Fig. 1

(57) Abstract: A mechanism (1) for launching the roulette (2) ball (11) according to the invention is carried out on the circumference of the housing (3) of any roulette (2), where any device (17) is used for the automatic return of the ball (11) from a nest (18) that determines a hit in the game, into the channel (10) which ends towards the mechanism (1) for launching the ball (11). The characteristic of the invention is that it is designed from a housing (5) which includes an axial mobile placed rammer (6) which is pushed directly with a spring (7), where the rammer (6) on the side of a spring (7) continues on the outer side of the housing (5) with a lever (8) for manual pull and with that it enables the tension of the spring as the player decides. In the same rammer (6), there is a smaller axial mobile placed rammer (13) that continues with the pushing needle (14) in the direction of the channel (10) for leading the ball (11) when it launches for every game and is pushed with a spring (15) in the direction of the lever (8). The launching channel (10) can also lie outside of the housing (3) and is drawn in a way that it firstly lifts up from the mechanism (1) and then descends to the roulette (2).

MECHANISM FOR LAUNCHING THE ROULETTE BALL

The subject of the invention is the ball launching mechanism for roulette, wherein each ball launching is performed manually by one of the
5 players. The invention-based mechanism is preferably designed for roulette intended for a single player and without a croupier, who is replaced by a computer.

The technical issue, solved by this invention, reflects on how to design
10 a ball launching mechanism for roulette that will enable one gambler to launch the ball in every game, and that will, in addition to the feeling that he influenced the launching speed of the ball, and by that the outcome of the game, with the help of a mechanism ensure a sufficient randomness of the game that is expected or required by those who pay out the winnings.

15 In addition to the classical method of inserting the ball in roulette where the croupier manually spins the ball in a regular manner, there are many known mechanical devices for this process.

All these methods are based on the fact that a device attributes launching speed to the ball, which then randomly enough spins inside the
20 roulette wheel, as well as over other additional obstacles, and then very randomly falls into one of the pockets determining the winnings. Usually these roulette wheels are computer-steered. The computer modifies the parameters based on additional random corrections, one of which is also

launching speed of each ball. For increased tension during individual games, the switch for starting individual games is visible and is launched by the croupier or by one of the players so that everyone can see it, or by the player in single player games. Since this is an electrical switch, it becomes evident to the player that he can influence the outcome of the game in any way by releasing the switch.

However, there is a need for this kind of roulette that enables the gambler to influence the course of the game and as such increasing the interest for the game. This kind of solution must certainly ensure a sufficient randomness of the winnings, which is required by those who pay out the winnings.

The described technical issue is solved by a device based on the invention of which the basic characteristic is that the launching of the balls into the roulette wheel is performed by a spring piston, enabling the player to choose the force for straining the spring within the foreseen range by himself, and thus allowing him to determine the launching speed of the ball by himself. To ensure sufficient randomness, another coaxial piston with its own spring and firing pin is located inside the piston affecting the ball. The spring of the smaller piston pushes the piston to the back position according to the movement direction of the bigger piston during ball launching. After manually straining the spring by pulling the larger piston in the back position and then allowing the spring to push the piston, together with the smaller piston located inside, in the final front position where it is

abruptly stopped by a movement limiting device and is on account of its mass, moved forward into the smaller piston that by affecting the ball with its firing pin, induces the launching of the ball from its bearing into the roulette wheel. On account of two pistons and two springs and arbitrary
5 manual pressure to the spring of the bigger piston, the player faces so many unforeseen factors that the launching speed of the ball is random enough to correspond to the rules of roulette. For an even greater degree of randomness, the channel leading the ball from the invention-based mechanism to the roulette wheel may be designed and so placed that in
10 the beginning the ball inside rises and then after a certain period of time descends back into the roulette wheel. This kind of construction also enables most random speed of the ball to correspond to the rules of the roulette.

In addition, the computer, steering other roulette functions, measures
15 every ejecting speed of the ball and in accordance to this speed adapts the speed of the revolving part of the roulette wheel through random coefficients, which are generated by the computer and cannot be influenced by anyone. This completely ensures the sufficient randomness of the winnings.

20 A detailed explanation of the invention is given based on description of the performed example and illustrations displaying:

Fig. 1 schematic diagram of the roulette wheel with built-in
invention-based device in cross section view;

Fig. 2 invention-based mechanism in cross section view and enlarged; and

Fig. 3 schematic diagram of the roulette with a built-in invention-based device and in another performed example in cross section view.

5

Ball ejection mechanism 1 for the roulette wheel 2 is constructed on the periphery of the roulette's housing 3. Here it is assumed, that the roulette wheel 2, as such, is used as an arbitrary roulette wheel that may ensure a sufficient degree of randomness for the winnings by manually turning its revolving part 4 or electromechanical drive of the revolving part 4, but favourably by electromechanical or electropneumatic computerized steering of individual game, and by computerized input of random values than cannot be influenced by anyone.

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Mechanism 1 is designed based on the housing 5 inside which a coaxial piston 6, pushed in one direction by a spring 7, is placed. Piston 6 reaches outside the housing, where spring 7 is located, with a handle which may be pulled for a chosen length by the player and by doing so straining the spring according to its own discretion. Later on, a description is given on how it is ensured that the launching speed of the ball following the player's actions is not too slow which might lead to insufficient randomness or even non-randomness of the game.

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The restriction of the piston movement 6 will be executed by a fit 9 that restricts the movement of the piston 6 after the player pulls the handle 8 and thus straining the spring 7 and after releasing the handle 8 so that the spring 7 has without restriction pushed the piston 6 towards the fit 9. The
5 fit 9 will be located within the area of the channel 10 intended for leading the ball 11 to the track 12 inside the roulette.

Inside the piston 6, a smaller axle moving piston 13 is placed and is continuous with the firing pin 14 in the channel direction 10 and is pushed with the spring 15 in the direction of the handle 8.

10 The mechanism 1 is placed on the housing's periphery 3 of the roulette wheel 2 in such a manner that the axle of the pistons 6 and 13 and the pin 14 are placed coaxial to the launching channel 10 located inside the housing 3.

Modern roulette wheels normally include a device 17 for removing balls
15 11 from their slots 18, determining the winnings of the game and for returning balls back to the ball-launching area at each game. The mechanism 1 is designed in such a manner that the bus 19 leading the ball 11 to the mechanism 1 leads the ball 11 directly in front of the pin 14 in the partially tensioned piston 6, while the pin 14 in the non-tensioned
20 position of the piston 6 prevents the movement of the ball from its bus 19 in front of the pin 14. This assures the minimum manual straining of the spring 7 of the piston 6 on account of minimum launching speed of the ball 11 that presupposes sufficient randomness of the winnings.

The mechanism 1, placed on the periphery of the housing 3, can be linked to the roulette wheel 2 with a longer ejection channel 10, which can also be placed outside of the housing 3 as shown in the image 3. The launching channel 10 is led in such a manner that it rises forward from the mechanism 1, and then lowers back to the roulette wheel 2. Such construction and mounting of the launching channel 10 prevents, in addition to the construction for achieving sufficient launching speed of the ball described within basic construction, insufficient launching speed of the ball that may lead to insufficient randomness or even non-randomness of the game. The described construction of the launching channel 10 forces the player to additionally regulate the launching speed of the ball, which has after leaving the mechanism 1 (due to two pistons 6 and 13, and two springs 7 and 15, and arbitrary manual pressure to the spring 7 of the bigger piston 6) become very coincidental, by pulling the handle 8.

For completely assuring sufficient randomness of the winnings at each game and to prevent the attempts of the player to reduce the randomness of the winnings under the allowed value on account of the possibility of manual ejection of the ball, speed sensor at the launching of the ball 11 is built into the mechanism 1. Microprocessor inside the roulette wheel annuls the game, if the launching speed of the ball 11 falls, due to any reason whatsoever, under the minimum required speed. By performing the correction to the revolving part of the roulette wheel, the microprocessor also takes into consideration the launching speed of each ball 11. The

attempt of the player lessens, on account of the manual launching of the ball 11, to the range of randomness as expected by the roulette operator.

The mechanism 1 is functioning in such manner that in stationary state the ball 11 is not located in front of the pin 14 since this is prevented by the position of the pin 14 through the bus 19 of the ball 11. After the player
5 pulls the handle 8 for a certain length of time, the pin 14 loosens the bus 19 and the ball 11, prepared for launching, appears in the channel 10. The abovementioned manual pull of the handle is a minimum pull since the launching of the ball 11 is possible only on account of ensuring minimum
10 launching speed of the ball 11. The player then arbitrarily pulls the handle 8 based on his intention to "influence" the movement of the ball. After releasing the handle 8, the spring 7 pushes the larger piston 6 in the direction of the fit 9. After it hits the fit 9, due to its persistent nature, the movement is continued by the smaller piston 13 in the direction of the fit 9
15 together with the pin 14 which hits the ball 11 and launches it with high speed through the channel 10 into the track located inside the housing 3 of the roulette 2. The spring 15 brings the smaller piston 13 back to its original position.

It is applied that an expert in this field can, based on the knowledge
20 about the abovementioned description of the invention, design a different construction of the mechanism by following this invention, without omitting its characteristics defined in the following patent requirements.

PATENT CLAIMS

1. Mechanism (1) for launching the roulette ball (11) constructed on the periphery of the housing (3) of any roulette wheel (2) for which
5 arbitrary device (17) for automatic returning of the ball (11) from the slot (18), which defines the winnings of the game, into the channel (10) which ends towards the ball launching mechanism (1) for balls is used,

characterized in that

10 it is designed based on the housing (5) inside which the axle moving piston (6) is placed, pushed by a spring (7) in one direction, where the piston (6) on the spring's (7) side reaches outside the housing (5) with a handle (8) for manual straining and for straining the spring (7) according to the player's discretion, and that the smaller axle
15 moving piston (13) is placed inside the same piston (6), which continues with the firing pin (14) in the direction of the channel (10) for leading balls (11) at the launching for each game and is pushed by a spring (15) in the direction of the handle (8).

20 2. Mechanism (1) according to the claim 1

characterized in that

it is placed along the periphery of the housing 3 of the roulette wheel
2 so that the axle of the pistons (6) and (13) and the pin (14) is

placed coaxial to the launching channel (10) located inside the housing (3).

3. Mechanism (1) according to the claim 1

5 **characterized in that**

that it is placed along the periphery of the housing (3) of the roulette (2) so that the bus (19) of device (17) brings the ball (11) directly in front of the pin (14) only with the partially tensioned piston (6).

10 4. Mechanism (1) according to the claim 1

characterized in that t

that it is linked to the roulette wheel (2) with a longer ejection channel (10) which can be placed outside the housing (3) and the ejection channel (10) is leaded so that it rises forward from the mechanism
15 (1) and then descends back towards the roulette wheel (2).

5. Mechanism (1) according to the claim 1

characterized in that

that sensor for the launching speed of the ball (11) has a built in key
20 (19), whereby the measured speed which is below the foreseen minimum speed causes nullification of the game.

6. Mechanism (1) according to the claim 1

characterized in that

that the sensor for the launching speed of the ball (11) has a built in key
(19), whereby the measured speed at individual game is considered in
the computerized correction of the speed for the rotating part of the
5 roulette wheel.

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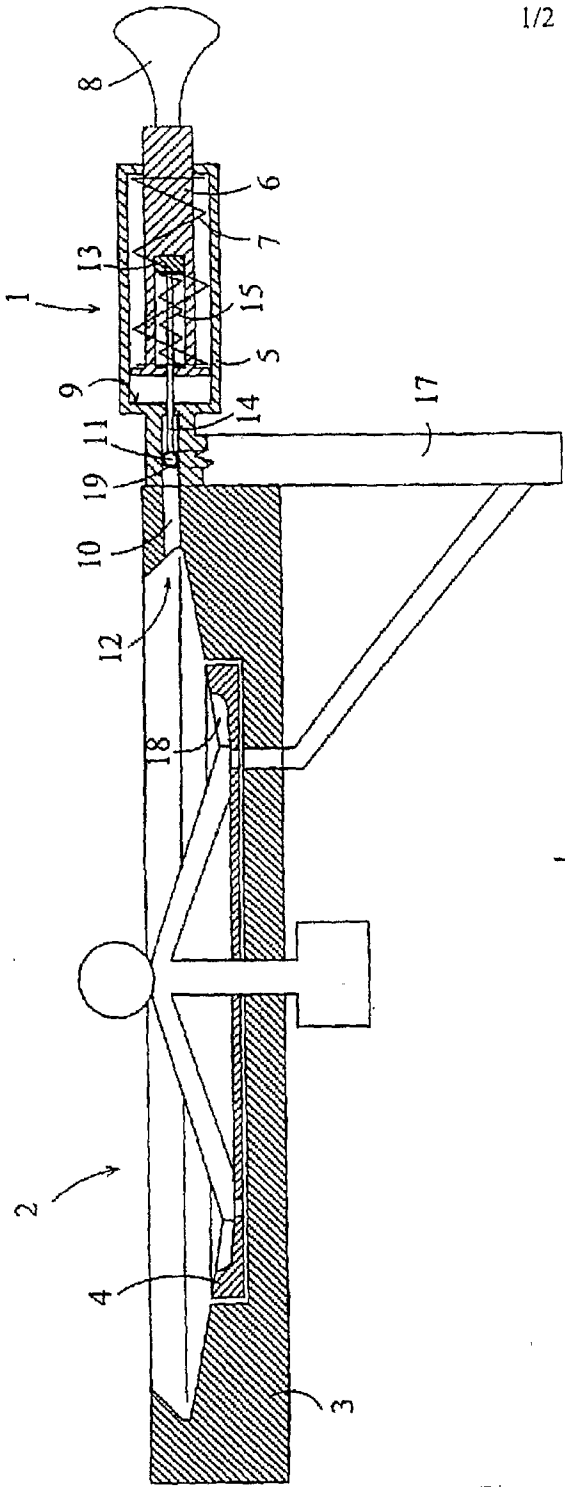


Fig. 1

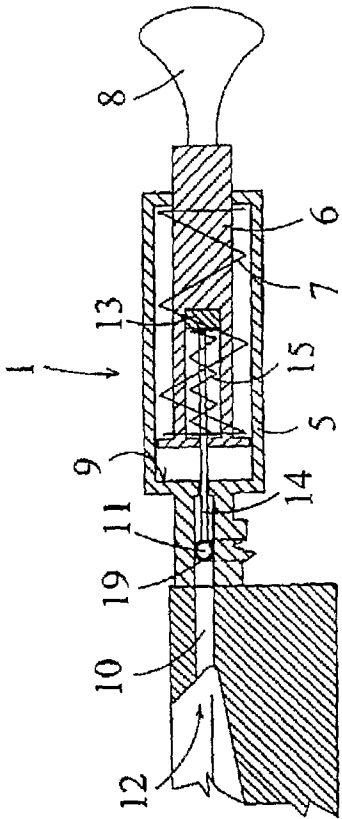


Fig. 2

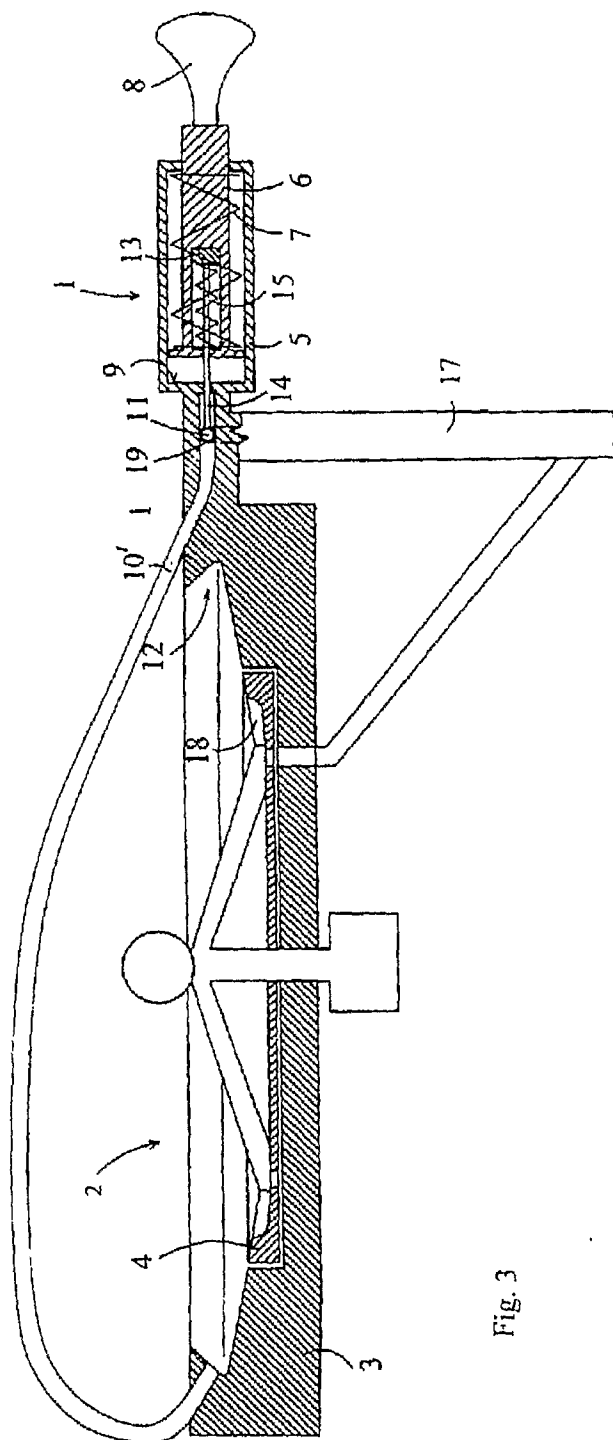


Fig. 3