

Feb. 28, 1956

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2,736,558

RESETTABLE TARGET

Filed Nov. 25, 1952

2 Sheets-Sheet 1

Fig. 1.

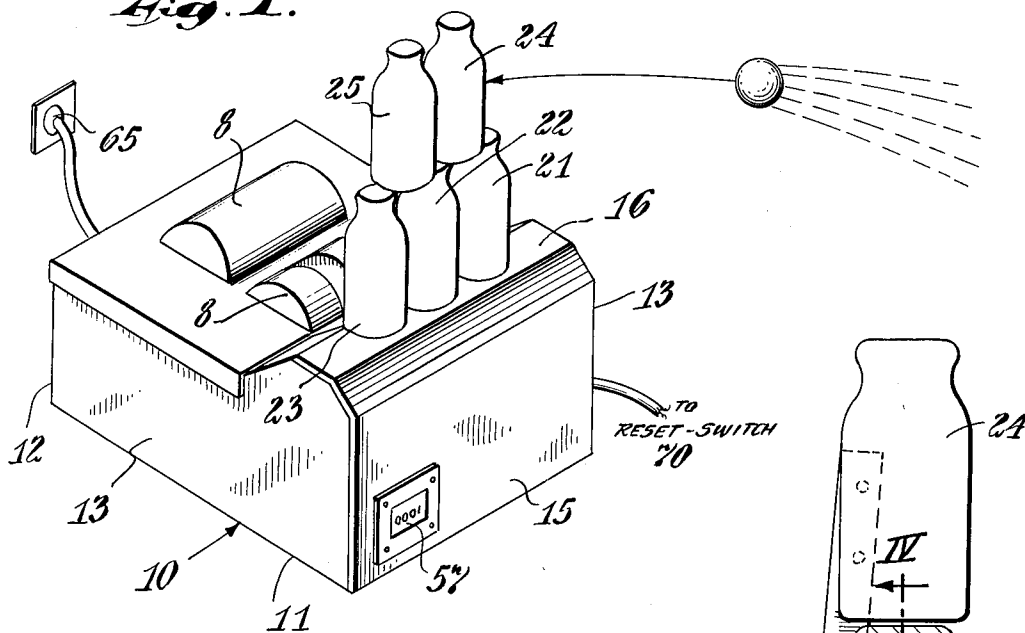
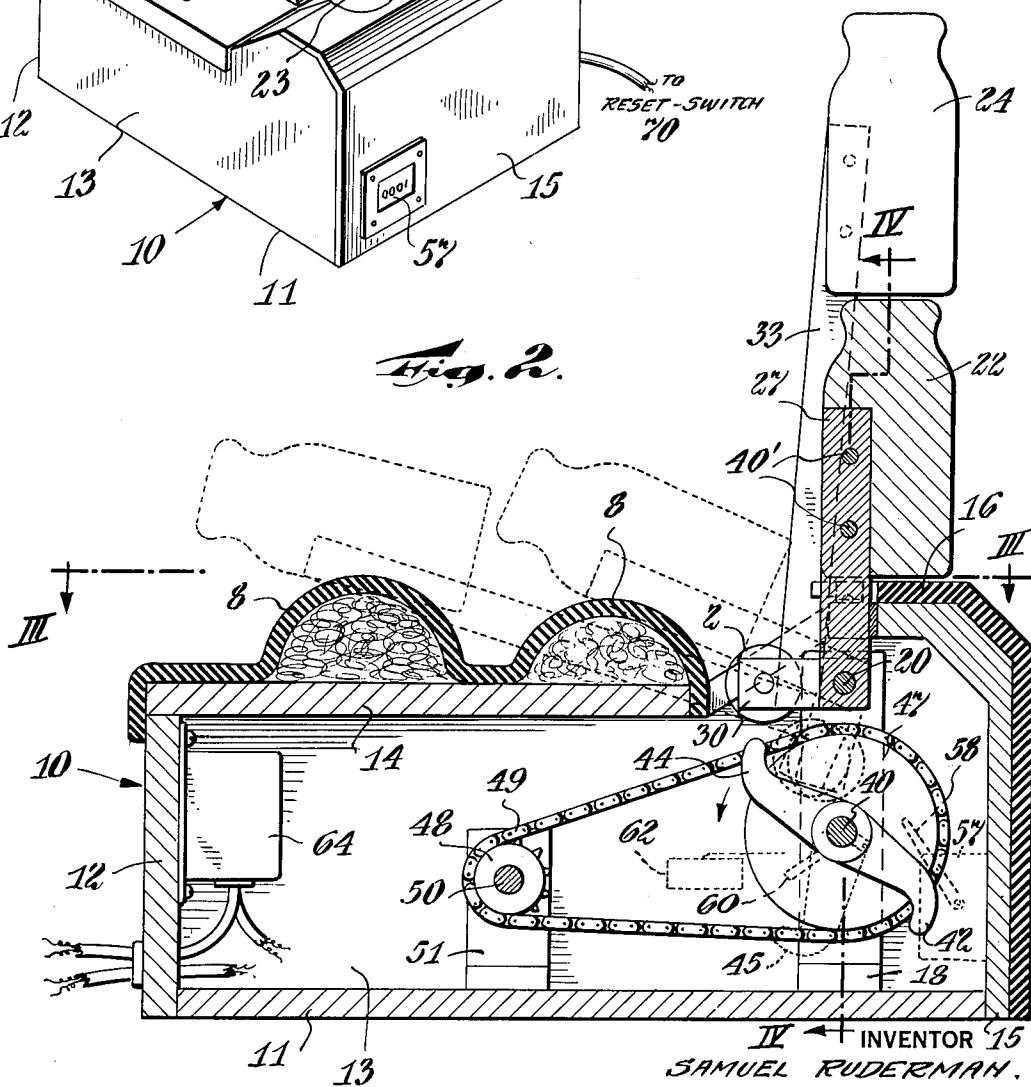


Fig. 2.



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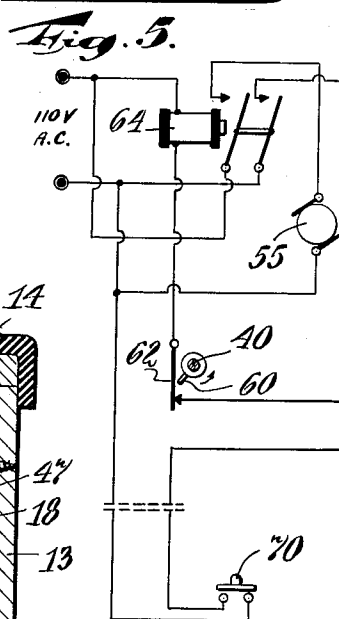
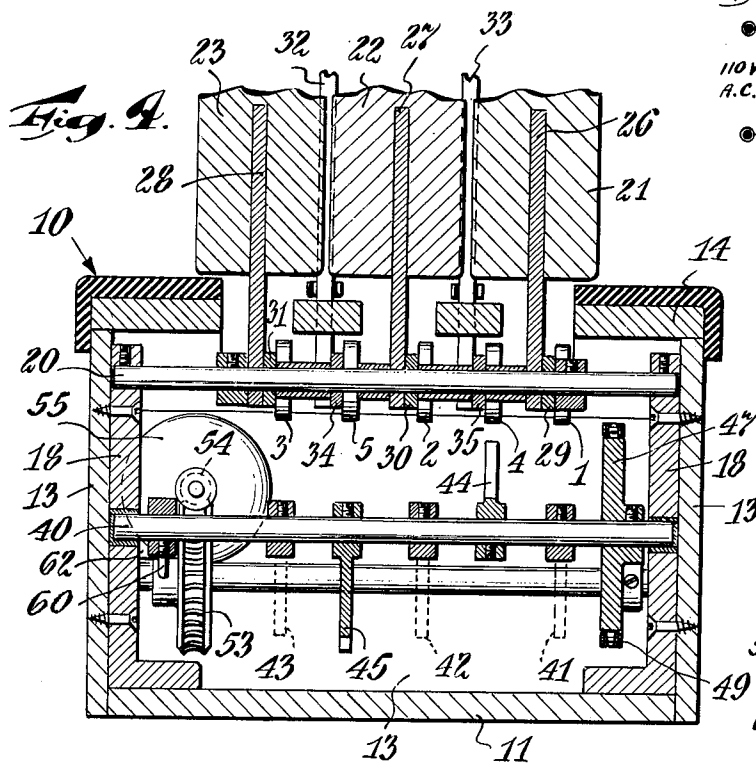
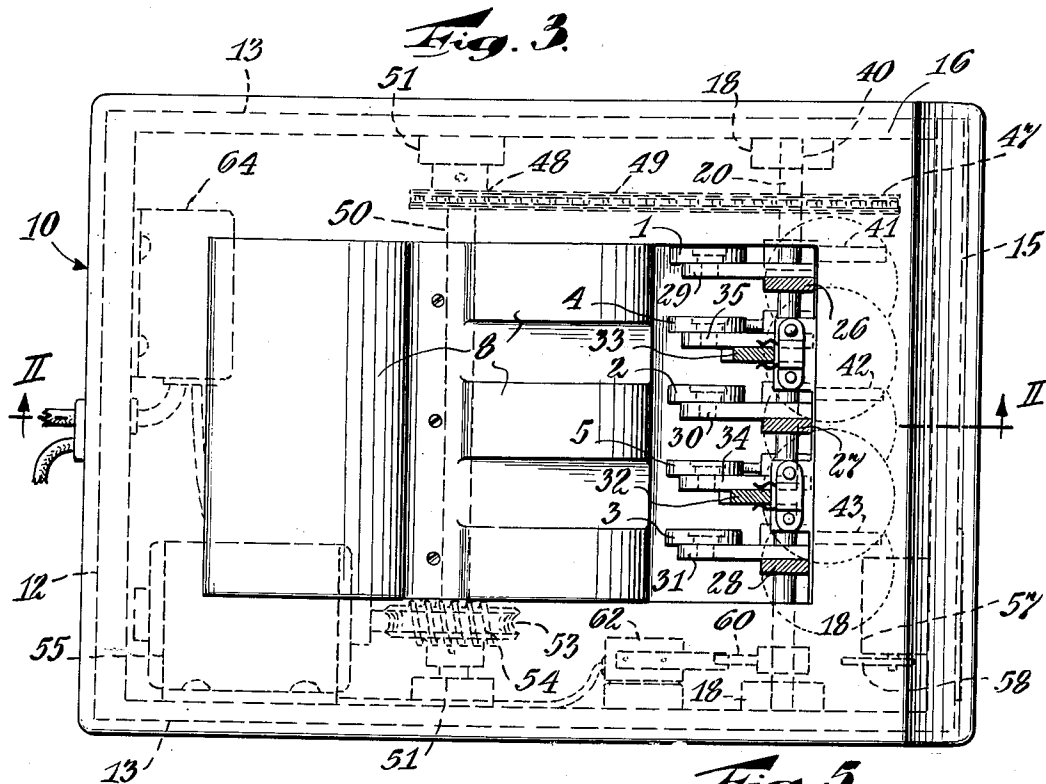
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2,736,558

RESETTABLE TARGET

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Application November 25, 1952, Serial No. 322,500

10 Claims. (Cl. 273—105.6)

This invention relates to novel devices and is directed to novel amusement devices. In one of its more specific aspects the invention is directed to an amusement device including a plurality of target elements which may, for example, simulate milk bottles.

Prior to this invention the milk bottle game was used for many years. It consisted of five white-painted wooden elements simulating bottles of milk arranged in the so-called pyramid fashion with three of them on the bottom and two on top. While so arranged, the player located some distance from them, attempted to knock them off a stand by throwing certain missiles which customarily were baseballs. After the player had thrown a number of baseballs at the pyramid of targets, the game was finished and in most cases some if not all of the targets were knocked over or off the stand. Before the next game was started, it was necessary for a boy to retrieve the targets and rearrange them as before for the next player. The employment of boys for that purpose has been costly to stand operators and, in addition, the boys have been subjected to some danger due to the fact that a stand may have a plurality of such games in progress while the boys are rearranging targets for next play.

Besides these disadvantages, there is also present the disadvantage of play slow-down due to the time necessary for manually retrieving and rearranging the targets.

Over the past fifty years many attempts have been made to provide apparatus for speeding up the play of target games. However, in most cases, the structures proposed have been far from satisfactory for one reason or another.

An object of this invention is to provide amusement devices which are rugged, relatively inexpensive to manufacture and maintain, easily and readily moved from place to place, and easily adjusted to playing conditions. Because of the advantageous characteristics of these devices the use of pick-up boys may be completely eliminated and the stand operator may control a plurality of game devices from a single position and at the same time the play may be speeded up.

The invention comprises the features of construction, combinations of elements and arrangement of parts, which will be exemplified in the construction hereinafter set forth and the scope of the invention will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a view in perspective illustrating a device embodying my invention and showing the target bottles in position for play.

Fig. 2 is a cross sectional view taken on line II—II of Fig. 3 in the direction of the arrows.

Fig. 3 is a cross sectional view taken on line III—III of Fig. 2 in the direction of the arrows.

Fig. 4 is a cross sectional view taken on line IV—IV of Fig. 2 in the direction of the arrows.

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Fig. 5 is a diagrammatic view showing the electric circuit.

As shown in the drawings, the novel amusement device comprises a housing 10 consisting of a bottom 11, rear 12 secured to a pair of sides 13, a rear top plate 14 having slots at the front end thereof, a front plate 15 terminating in a front top plate 16 having a cut-out at the rear thereof. The rear top plate 14 has transverse cushions 8 thereon. Secured to the sides 13 are a pair of supports 18.

Mounted in support 18 is a shaft pivotal support 20 for rotatably supporting a plurality of targets 21—25. Swingably mounted on said shaft 20 are three supporting bars or plates 26, 27 and 28 spaced from each other, all of approximately the same length and having short arms 29, 30 and 31 respectively fixedly secured thereto by welding or other convenient manner. Wheels 1, 2 and 3 respectively are mounted for free rotation at the ends of arms 29, 30 and 31. Also swingably mounted on said shaft 20 are like supporting bars or plates 32 and 33 which are of approximately the same dimensions except that they are longer than bars 26—28. Bar or plate 33 is located between plates 29 and 30, and bar or plate 32 is located between plates 30 and 31. Short arms 34 and 35 respectively are fixedly secured by welding or other manner to said bars or plates 32 and 33. Wheels 4 and 5 respectively are mounted for free rotation at the ends of arms 34 and 35. Each of the targets 21—25 is in the form of a bottle, simulates a bottle of milk and may be composed of wood or the like and has a narrow slot or recess therein in the rear thereof and through the bottom thereof to accommodate a supporting bar or plate. Bars or plates 26, 27 and 28 respectively are located in the recesses or slots of the bottle targets 21, 22 and 23 respectively and are fixedly secured thereto by anchoring pins 40; and the bottle targets 24 and 25 respectively are in like manner fixedly secured to plates 33 and 32.

When all of the bars or plates are in upright position as shown in Figs. 2 and 4, the bottle targets 21—25 stand in upright, properly arranged ready to play position. In that predetermined position shown in Fig. 1, the bottle targets 21, 22 and 23 rest upon or are close to the top 16 having slots therein for entry and exit of the plates 26—28 which are normally disposed in upright or vertical position as shown. The bars or plates 32 and 33 are also normally in upright position and are located to the rear of the centerline of bottle targets 21—23, with bar 32 located between the targets 22 and 23 and extending thereabove, with the target 25 resting on or being close to the top of targets 22 and 23; and bar 33 is located between targets 21 and 22 and extends thereabove, with the target 24 resting on or being close to the top of targets 21 and 22.

Disposed below the shaft 20 and mounted for free rotation on the supports 18 is a target returning actuator shaft 40. Spaced from each other and fixedly mounted on shaft 40 are a plurality of actuator return arms or cams 41—45. The end arms or cams 41 and 43 and the mid-arm or mid-cam 42 are all disposed parallel to each other; arm or cam 44 is located between cams 41 and 42 and is disposed approximately 180° from arms or cams 41 and 42; and cam 45 is located between cams 42 and 43 and is disposed 90° from cam 44. If desired, cams 44 and 45 may be arranged parallel to each other and are preferably 90—180° from the cams 41—43.

Also fixedly secured to shaft 40 is a sprocket wheel 47 adapted to be driven by a smaller sprocket wheel 48 through a chain 49. The sprocket wheel 48 is fixedly secured to a shaft 50 carried by supports 51 secured to sides 13. Also carried by shaft 50 is a gear driveable by a worm 54 secured to the drive shaft of an electric motor 55 carried by and secured to a side 13. Also located in housing 10 and mounted on front 15 is a counter 57 operable by arm 58 normally in its lower posi-

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tion as shown in Fig. 2. The front 15 has an opening therethrough for viewing the register of the counter 57. Counter 57 is operated by an actuating finger 60 keyed to shaft 40 upon rotation of shaft 40.

Mounted on the side 13 is a microswitch 62 having an actuable finger adapted to be actuated by the finger 60 in the course of rotation thereof for making and breaking a circuit. Secured to the rear end 12 is a solenoid relay 64. The electric devices are connected to each other as shown in Fig. 5. As shown, one side of the solenoid relay 64 is connected to an ordinary A. C. source of supply through a normal male plug 65 and the other side of the solenoid 64 is connected to one contact of a manually operable switch 70 through the normally closed microswitch 62. The double pole switch of the relay 64 is connected to the motor 55 and the microswitch 62. This provides an interlocking circuit for the operation of the motor 55 whereby motor 55 makes only a single revolution upon momentary closing of switch 70.

The operation and use of the device is as follows: With the device set up as shown in Fig. 1, the bottle targets 21—25 are in position ready for play. The player upon throwing a ball may strike target 24 for example whereupon target 24 alone on swingable bar 33 above pivot shaft 20 swings rearwardly and comes to rest upon a cushion 8, leaving the four other targets remaining in their original positions. Assuming that upon throwing the next ball, the player strikes the bottle targets 22 and 23, if they are struck with sufficient force, these targets 22 and 23 will swing on their bars or plates rearwardly about pivot shaft 20 to rest upon cushion 8 and in the course of this movement will cause target bottles 25 to swing with them rearwardly to cushion 8. If this is the end of the play, all the operator need do is to close reset switch 70.

Upon temporarily closing switch 70 the solenoid-microswitch circuit is made whereupon the solenoid of the relay 64 is energized immediately causing actuation of the double pole switch to make the motor circuit whereupon the motor becomes energized to drive its shaft, which through the worm 54 and gear 53 arrangement drives the shaft 50 which in turn drives the chain drive to rotate the shaft 40. Upon rotation of the shaft 40 the arms 41—45 rotate in unison in the direction of the arrows shown in Fig. 2, this being counterclockwise. This shaft 40 rotates but a single revolution. In the course of rotation of shaft 40 the arms 41—45 engage the wheels of those arms which are disposed in their rearward position as shown in dotted lines in Fig. 2. In this particular instance, the arms 42 and 43 bear against the wheels 2 and 3 to swing and locate the targets 22 and 23 in their original upright position and ready for play as shown in Fig. 1; subsequently the arm 44 wipes against the wheel 4 to swing plate 33 in upright position and locate target 24 in the position shown in Fig. 1; and then the arm 45 wipes against the wheel 5 to swing plate 32 in upright position and locate target 25 in the position shown in Fig. 1. If desired, both of these arms 44 and 45 may swing at the same time and therefore may be disposed parallel to each other and 90—180° from arms 41—43. In the course of the aforesaid rotation of shaft 40, the finger 60 actuates the arm 58 of the counter 57 to register one additional unit on the front face. As the shaft 40 approaches the end of its single revolution, finger 60 strikes the finger of the microswitch 62 to break the interlocking circuit.

At this stage switch 70 is open and because switch 62 has been opened, the solenoid is de-energized and the double throw switch automatically opens. The motor circuit is thus broken and the motor stops. The momentum of shaft 40 carries finger 60 past the microswitch 62, and allows microswitch 62 to close again, after the current to the motor has been cut off and the device is ready for the next play.

Since certain changes may be made in the above con-

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struction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all the generic and specific features of the invention herein described, and all statements of the scope of the invention, which as a matter of language might be said to fall therebetween.

I claim:

1. An amusement apparatus comprising a plurality of targets, with at least three of them arranged in one row and two of them arranged in a second row above the first row, said targets arranged in pyramid fashion, a plurality of supports for said targets, one of the ends of said supports secured to said targets, means for pivotally supporting said supports at the lower ends of said supports, means for swinging said supports about said first mentioned means to swing said targets into their normally upright positions, with one of said rows of targets being first located in position and then the other of said rows located in position; said last mentioned means including five individual fingers and a rotatable shaft carrying said fingers to swing said supports.

2. An amusement apparatus comprising a plurality of targets normally arranged in upright position and adapted to be moved rearwardly to lowered position, a plurality of swingable supports for said targets, said supports being independently swingable and individually connected to the respective targets, a shaft, a plurality of return actuators carried by said shaft for returning the individual targets and supports to their original positions, some of said actuators being disposed at an angle to some of the other actuators.

3. An amusement apparatus comprising a plurality of targets normally arranged in two rows one above the other, with three of them in the lower row and two of them in the upper row in general pyramid fashion, a plurality of independently swingable supports individually connected respectively to said targets, a rotatable shaft, a plurality of individual return actuators secured to said shaft, spaced from each other and adapted upon rotation to swing three of said supports from lowered to upright position to locate and dispose said three targets in a lower row and to swing two of said supports from lowered to upright position to locate and dispose two of said targets in an upper row, two of said return actuators disposed at angles to the other of said actuators at all times.

4. Apparatus defined in claim 3 and means for driving said shaft a single revolution, said means including an electric motor and a switch and means carried by said shaft for operating said switch.

5. An amusement apparatus comprising a plurality of targets when arranged for play being in approximate pyramid fashion with three of them in the lower row and two of them in the upper row, a pivot rod, a plurality of target bars, said targets secured to the normally upper ends of said bars, said bars being pivotally mounted on said rod, a plurality of actuators, a rotatable shaft, said actuators secured to said shaft and rotatable therewith, two of said actuators disposed at an angle to three others, upon rotation of said shaft said three others acting upon three of said target bars capable of swinging them from a lowered to upright position and the said two actuators subsequently swinging said two target bars in time relation to locate the upper row of targets above the lower row of targets.

6. An apparatus defined in claim 5, and means for driving said rotatable shaft, said means including an electric motor.

7. An apparatus defined in claim 5, means for driving said shaft a single revolution, said means including an electric motor and a switch and means carried by said shaft for operating said switch.

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8. An amusement apparatus comprising five bottle-simulating targets which when arranged for play are in approximate pyramid fashion with three targets disposed side by side in a bottom row and the other two being arranged side by side in an upper row, a pivot rod, three target bars independently swingably supported on said rod and being respectively connected to said targets in said lower row, the length of said target bars from the lower ends of said targets connected thereto to said pivot rod being approximately equal, two other target bars independently swingably supported on said rod and being respectively connected to said targets in said upper row, the lengths of said two other target bars from the lower ends of said targets in the upper row to the rod being approximately equal and being greater than said first mentioned lengths, a rotatable shaft, a plurality of cams secured to said shaft and rotatable therewith, means secured to said bars and actuable by said cams to actuate said bars in predetermined time relationship to swing them from lowered to upright position; two of said cams being disposed at an angle to the three other cams.

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9. Apparatus defined in claim 8, means for driving said shaft and means for controlling said driving means, to limit the rotation of said shaft.

10. Apparatus defined in claim 8, means for driving said shaft and controlling the extent of rotation thereof, said means including an electric motor, switch and means rotatable with said shaft to control said switch.

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