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Patented Mar. 27, 1900.

R. W. SOWERS.
COIN CONTROLLED APPARATUS.

(Application filed May 29, 1899.)

(No Model.)

2 Sheets—Sheet 1.

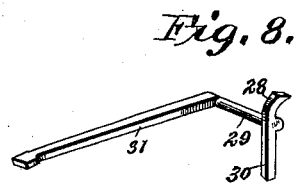
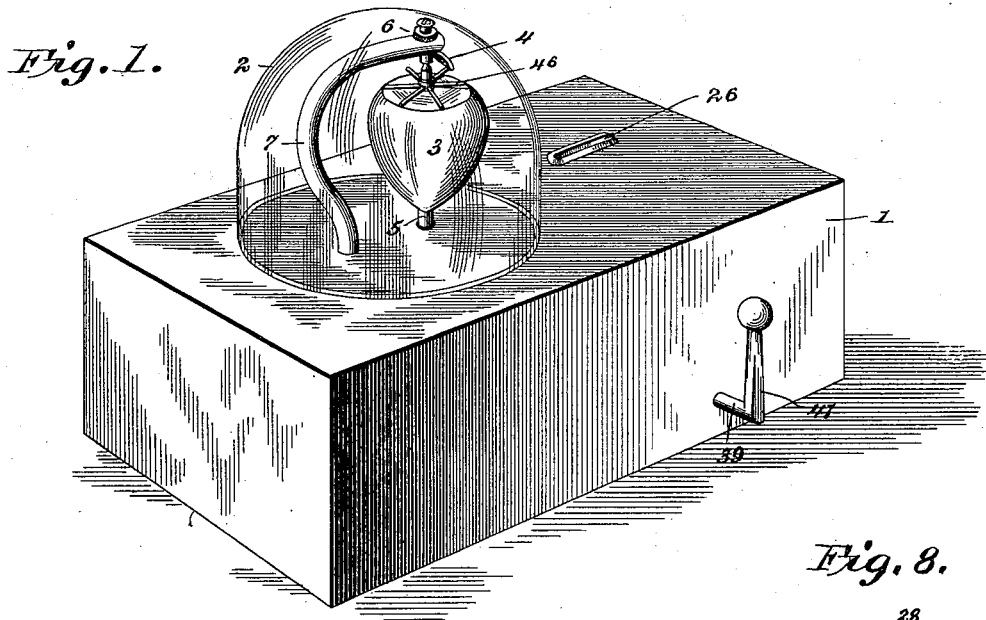


Fig. 4.

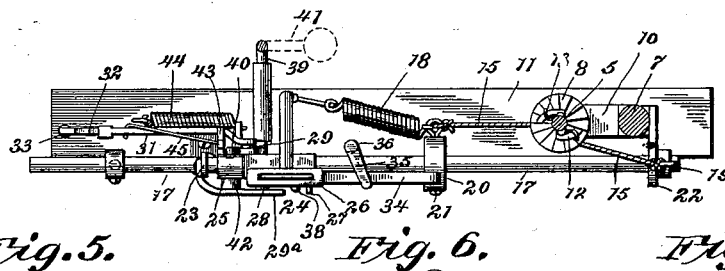
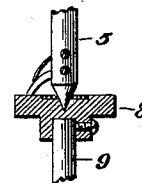
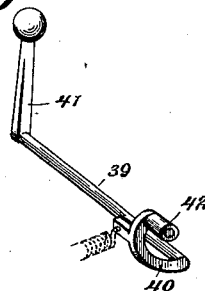
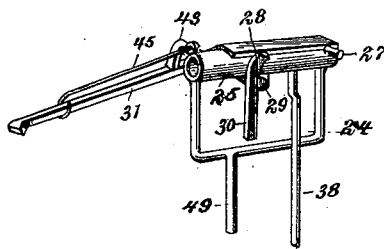


Fig. 5.

Fig. 6.

Fig. 7.



Witnesses

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Fig. 2.

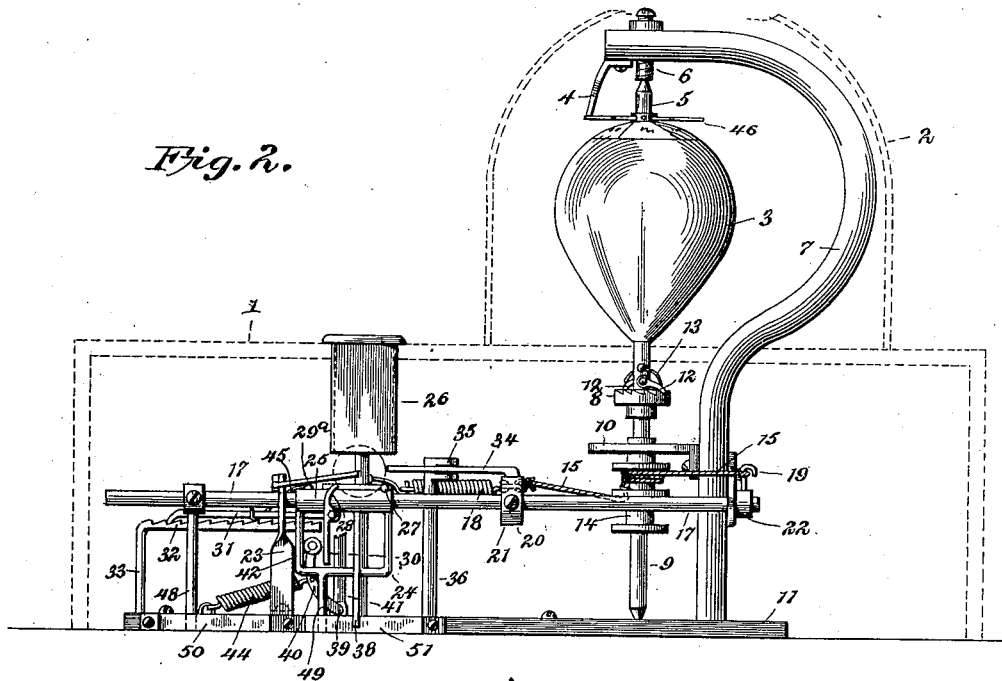
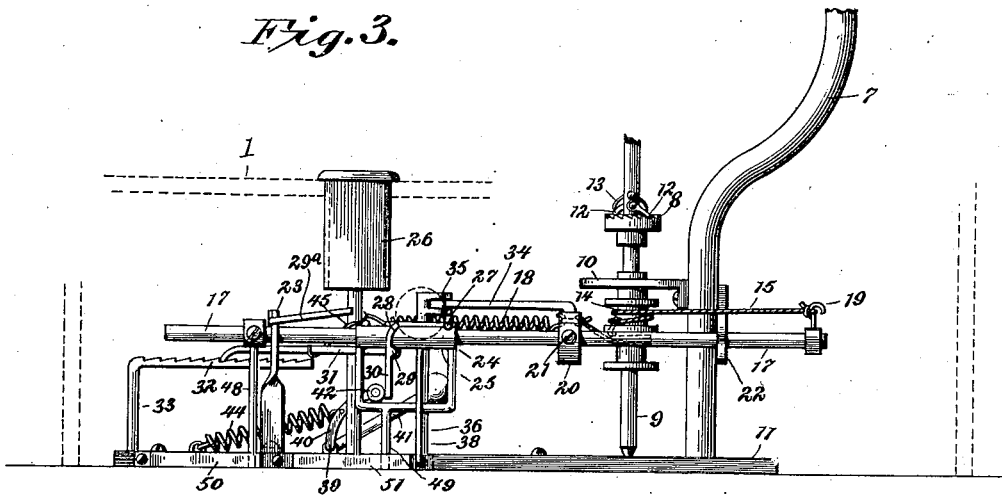


Fig. 3.



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UNITED STATES PATENT OFFICE.

ROBERT W. SOWERS, OF KNOXVILLE, TENNESSEE.

COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 646,323, dated March 27, 1900.

Application filed May 29, 1899. Serial No. 718,735. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. SOWERS, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Coin-Controlled Apparatus, of which the following is a specification.

The invention relates to improvements in coin-controlled apparatus.

10 The object of the present invention is to improve the construction of that class of coin-controlled apparatus in which the element of chance enters into the result and to provide a simple and comparatively-inexpensive one adapted to be employed for a variety of purposes and capable of operation only by a coin of the proper denomination.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective view of a coin-controlled apparatus constructed in accordance with this invention. Fig. 2 is a side elevation of the apparatus, the casing being indicated by dotted lines. Fig. 3 is a similar view illustrating the arrangement of the parts when the reciprocating bar has reached the forward limit of its movement. Fig. 4 is a horizontal sectional view. Fig. 5 is a detail perspective view of the sliding carrier. Fig. 6 is a detail view of the operating rock-shaft. Fig. 7 is a detail sectional view illustrating the manner of mounting the rotary ratchet-wheel. Fig. 8 is a detail view of the rock-shaft of the coin-carrier.

25 Like numerals of reference designate corresponding parts in all of the figures of the drawings.

30 1 designates a rectangular casing designed to be constructed of any suitable material and supporting a globe or receiver 2, of glass or other transparent material, in which is arranged a rotary body 3, preferably in the form of a top, designed to bear a series of numbers or other characters, which operate in connection with the fixed index-finger 4, as clearly shown in Figs. 1 and 2 of the accompanying drawings. The form of the casing and the globe or receiver may be varied, and the rotary or spinning body, which may be of any desired shape, is fixed to a vertical shaft 5,

which has its upper end supported by an adjustable bearing 6 of a standard 7. The lower end of the shaft 5 is journaled in a suitable bearing of a horizontally-disposed ratchet-wheel 8, which is adapted when rotated by the means hereinafter described to actuate the shaft 5 and spin the top.

35 The horizontal ratchet-wheel is mounted upon the upper end of a lower vertical shaft 9, journaled in suitable bearings of a bracket 10 and a base-plate 11, upon which the standard 7 is mounted and which is suitably secured to the bottom of the casing. The upper shaft 5 carries a pair of pivoted pawls 12, located directly above the ratchet-wheel and held in engagement with the same by springs 13, which effectually prevent the pawls from being thrown upward out of engagement with the ratchet-wheel. The pawls and the ratchet-wheel form a clutch which connects the two shafts and which permits the lower shaft to have an independent rotation in one direction.

40 The lower shaft 9 carries a double pulley or drum 14, around which is wound a flexible connection 15, which has its ends connected with a horizontally-reciprocating rod or bar 17, which is adapted to actuate the lower vertical shaft and which is operated by coin-controlled mechanism hereinafter described. The double pulley or drum is provided with central and side flanges arranged one above another, and the central flange is perforated for the passage of the flexible connection, which is adapted to be alternately wound around the upper and lower portions of the drum. When the reciprocating bar is moved forward by the coin-controlled operating mechanism, hereinafter described, the flexible connection is unwound from the upper portion of the pulley or drum and wound around the lower portion, the movement being slow and steady compared with the return movement, which is short and sudden to produce a rapid rotation of the upper shaft, and the said return movement is effected by a coiled spring 18, which is distended when the reciprocating bar is moved forward.

45 The forward or outer end of the flexible connection is secured to an eye 19 of the reciprocating bar, and the rear or inner end of the flexible connection is attached to an adjustable collar 20, which is secured to the rod 17 by a clamping-screw 21 or other suitable

means. The reciprocating rod or bar 17 is mounted in guide-openings of supports 22 and 23, mounted, respectively, on the standard 7 and on the base-plate. The support 22 extends outward from the standard, and the other support 22 is arranged vertically and is secured at its lower end to the said base-plate, but any other form of brackets or supports may be provided.

Mounted upon the reciprocating rod or bar is a sliding coin-carrier 24, consisting of a substantially-rectangular frame provided at its top with a sleeve 25, arranged on the rod 17. The sliding coin-carrier is normally located beneath the lower end of a coin-chute 26, depending from a slot or opening of the top of the casing, and the coin, which may be of any denomination, is received by the carrier between a lug 27 and an upwardly-extending arm 28 of a rock-shaft 29, journaled in suitable bearings of the carrier, preferably at a point beneath the sleeve. The coin is also supported by a fixed arm 29^a, mounted on and extending from the support 23, as clearly illustrated in Figs. 2 and 3 of the accompanying drawings.

The rock-shaft 29 is provided with a depending arm 30, located adjacent to one end of the carrier and arranged at one end of the rock-shaft, which is provided at its other end with a longitudinally-disposed arm 31, arranged substantially horizontally. The arm 31, which is provided at its outer end with a tooth, constitutes a dog or pawl and is adapted to engage a horizontal ratchet-bar 32, extending from a suitable post or support 33 and adapted to prevent the carrier from moving backward when a coin is in the same until the said carrier has completed its forward movement and the coin has been ejected by the means hereinafter described, whereby a double operation of the machine by a single coin is effectually prevented.

The coin is adapted to engage a horizontal arm 34, extending from the adjustable collar 20 and having one end arranged beneath the coin-chute, as clearly shown in Fig. 2, when the apparatus is not in operation. When the carrier is moved forward by the means hereinafter described the coin engages the arm 34 and reciprocates the rod or bar 17, moving the same forward until it (the coin) is engaged by an ejecting device 35, whereby it is discharged from the carrier. The ejecting device 35 consists of an arm or head mounted on a suitable support 36 and slotted or bifurcated to receive the arm 34, the said head or arm 35 being arranged at an angle to the transverse diameter of the arm 34, whereby the coin will be deflected laterally. The carrier is provided with a depending guard 38, which is adapted to cause the coin to fall outside of the mechanism, and a suitable receptacle or a chute may be provided for the reception of the coin.

The carrier is actuated by a rock-shaft 39, journaled in suitable bearings of the casing

and provided at its inner and outer ends with arms 40 and 41. The outer arm constitutes a handle and is arranged, as clearly shown in Fig. 1 of the accompanying drawings, and the inner arm, which is substantially L-shaped, carries an antifriction-roller 42 and extends between the depending arm of the rock-shaft 29 and the adjacent end of the carrier. When the rock-shaft 39 is operated by the handle 41, its inner arm engages the depending arm 30 of the rock-shaft 29, throwing the dog or pawl 31 against the horizontal ratchet 32 and moving the carrier forward. The upwardly-extending arm 28 engages the back of the coin and the movement of the rock-shaft 29 is limited by the horizontal ratchet and by a stop 43, mounted on and depending from the upper portion of the carrier. The carrier is returned to its normal position by a coiled spring 44, secured to the base-plate and to a lug which extends from the arm 40 of the operating rock-shaft 39. When the rock-shaft 29 is relieved of pressure, the dog or pawl 31 is lifted by a spring 45 and is carried out of engagement with the horizontal ratchet to permit the carrier to slide backward.

The coin is held between the lug 27, the arm 34 of the reciprocating bar or rod, and the upwardly-extending arm 28 of the rock-shaft 29, and when the device is constructed to be operated by any particular coin a coin of any other denomination will not suffice, and it will be impossible for it to engage the arm of the reciprocating bar, so that the latter will be operated.

The shaft 5, which carries the top 3 is provided above the same with a spider 46, having a series of radial arms and constructed of resilient material—such as rubber, spring metal, or the like—and the spaces between these arms correspond with the characters on the upper face of the rotary body. The spider, which retards the rotation of the body 3, by engaging the indicator-finger 4, causes the said body to stop with one of its characters opposite the said indicator-finger 4. The reciprocating rod and the carrier are provided with depending arms 48 and 49, which are arranged in longitudinal guides 50 and 51 of the base-plate.

It will be seen that the coin-controlled apparatus is simple and comparatively inexpensive in construction, that it is positive and reliable in operation in that it can be operated only by a coin of the proper denomination, and that the carrier when it receives the coin is locked against backward movement until the coin is ejected from it, so that it is impossible to operate it twice with one coin, and that as the element of chance enters into the result it may be employed for a large variety of purposes.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. In a device of the class described, the combination of the upper and lower shafts having a clutch connection adapted to permit the lower shaft to rotate independently of the upper shaft in one direction, a rotary body carried by the upper shaft, a reciprocating bar connected with the lower shaft and adapted to rotate the same in one direction when it is moved forward, and capable of rotating the lower shaft in the opposite direction when it is moved backward, and coin-controlled mechanism for operating the said bar, substantially as described.

2. In a device of the class described, the combination of the upper and lower vertical shafts having a clutch connection between them, a drum mounted on the lower shaft, a reciprocating rod, a flexible connection centrally secured to the drum and having its terminals connected with the reciprocating rod, said flexible connection being arranged to be wound around the drum and unwound therefrom, whereby the drum is rotated by the reciprocation of the rod, and coin-controlled mechanism for actuating the rod, substantially as described.

3. In a device of the class described, the combination of the upper and lower vertical shafts, a horizontal ratchet-wheel fixed to the lower shaft, a pair of pawls mounted on the upper shaft and engaging the ratchet-wheel, a rotary body carried by the upper shaft, a reciprocating rod connected with the lower shaft and adapted to rotate the same, and coin-controlled mechanism for actuating the said rod, substantially as described.

4. In a device of the class described, the combination of the upper and lower vertical shafts having a flexible connection between them, a rotary body mounted on the upper shaft, a stationary indicator arranged adjacent to the rotary body, a reciprocating rod connected with and adapted to rotate the lower shaft, a spring connected with the reciprocating rod and adapted to move the same in one direction, and coin-controlled mechanism for moving the rod in the opposite direction, substantially as described.

5. In a device of the class described, the combination of a reciprocating rod having an arm, a sliding carrier mounted on the rod and adapted to receive a coin and hold the same in position for engaging the arm of the rod, and an operating rock-shaft having an arm arranged to actuate the carrier, substantially as described.

6. In a device of the class described, the combination of a reciprocating rod having an arm, a sliding carrier arranged to receive a coin and adapted to hold the same in position to engage the said arm, and a deflecting device bifurcated to receive the arm and arranged at an angle thereto, whereby the coin is thrown out of the carrier, substantially as described.

7. In a device of the class described, the combination of a reciprocating rod, a sliding carrier adapted to receive a coin and arranged to hold the same in position for actuating the rod, a ratchet, and a rock-shaft mounted on the carrier and having one arm arranged to engage the coin and provided with another arm engaging the ratchet, whereby the carrier is held against backward movement when a coin is in it, substantially as described.

8. In a device of the class described, the combination of a reciprocating rod, a sliding carrier arranged to receive a coin and adapted to hold the same in position for actuating a rod, a rock-shaft 29 having an arm and provided with a pawl or dog, a ratchet arranged to be engaged by the pawl or dog, and an actuating or operating rock-shaft having an arm arranged to engage the arm of the rock-shaft 29, whereby the carrier is actuated and the pawl or dog is held against the ratchet, substantially as described.

9. In a device of the class described, the combination of a reciprocating rod, a sliding carrier arranged to hold a coin in position for actuating the rod, the rock-shaft 29 provided with a pawl and having upwardly and downwardly extending arms and mounted on the carrier, the upwardly-extending arm being adapted to engage a coin, a ratchet arranged to be engaged by the pawl, and an operating rock-shaft arranged to engage the depending arm of the rock-shaft 29, substantially as and for the purpose described.

10. In a device of the class described, the combination of a reciprocating rod having an arm, a carrier provided with a lug, a rock-shaft 29 journaled on the carrier and having upwardly and downwardly extending arms and provided with a pawl, a ratchet arranged to be engaged by the pawl, a coin-chute located above the carrier, and an operating rock-shaft arranged to engage the depending arm of the rock-shaft 29, substantially as and for the purpose described.

11. In a device of the class described, the combination of a reciprocating rod, a sliding carrier adapted to receive a coin and arranged to hold the same in position for actuating the rod, a rock-shaft 29 mounted on the carrier, provided with a pawl and having an arm, a ratchet arranged to be engaged by the pawl, a spring for holding the pawl normally out of engagement with the ratchet, an operating rock-shaft arranged to engage the arm of the said rock-shaft 29, and springs connected with the rod and with the operating rock-shaft to return the same to their initial position, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBT. W. SOWERS.

Witnesses:

ROY C. SCOTT,
CHAS. H. GLENN.