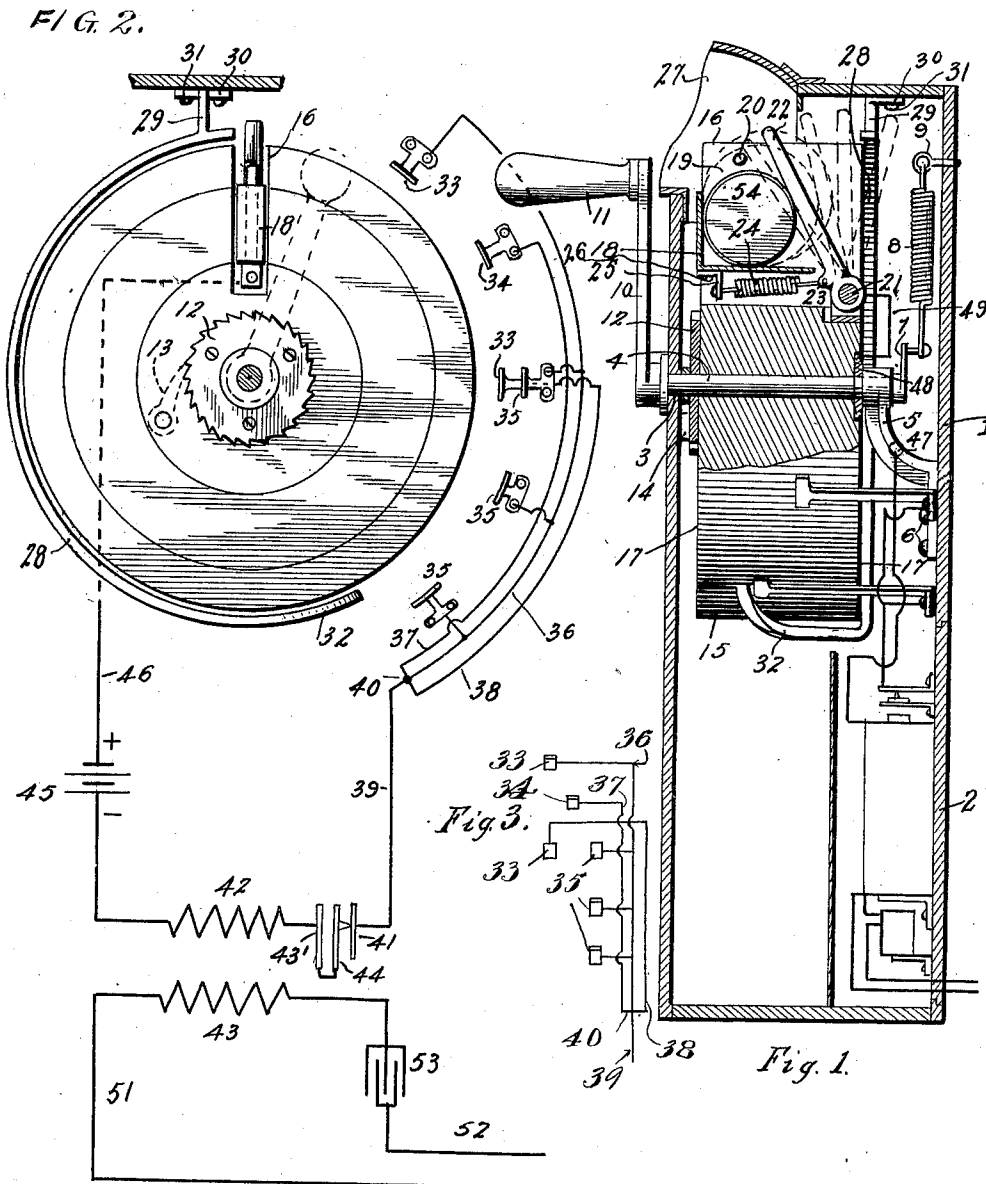


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 COIN COLLECTOR FOR TELEPHONE SYSTEMS.
 APPLICATION FILED JUNE 4, 1910.

994,946.

Patented June 13, 1911.



WITNESSES

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COIN-COLLECTOR FOR TELEPHONE SYSTEMS.

994,946.

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To all whom it may concern:

Be it known that we, RUSSELL REITZEL MOHN and NOAH WINE, citizens of the United States, residing at Polo, in the county of Ogle and State of Illinois, have invented certain new and useful Improvements in Coin-Collectors for Telephone Systems, of which the following is a specification.

Our invention relates to a method and apparatus for indicating the denomination of a coin deposited by a telephone subscriber at an outlying station, so that the central operator may easily and accurately ascertain such denomination.

An important object of this invention is to provide a coin collector which is simple in construction, positive in its operation and cheap to manufacture.

A further object of this invention is to provide a device of the above character, so constructed that a selected number of distinct and separate sounds will be given, when a proper coin is deposited within the same.

A further object of this invention is to provide a coin collector, which will enable the operator at the central station to readily ascertain the denomination of the coin deposited within the coin collector.

Further objects and advantages of this invention will be apparent hereinafter.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a central vertical section through the device, parts thereof being shown in side elevation. Fig. 2 is an end view of the drum or cylinder shown in Fig. 1, and showing diagrammatically the wiring of the device. Fig. 3 is a diagrammatic view of the stationary contacts, showing the same arranged in different vertical planes.

In the drawings, wherein is illustrated a preferred embodiment of our invention, the numeral 1 designates a casing which is preferably rectangular and formed of sheet metal or other suitable material. The rear wall of the casing 1 is provided near its lower end with an opening, which is normally closed by means of a door 2. The forward wall of the casing 1 is provided near its upper end, as shown at 3, with a suitable opening to rotatably hold a transverse horizontally disposed shaft 4, the inner end of which is rotatably mounted within a bracket

5 fixedly secured to the rear wall of the casing 1 as shown at 6. The rear end of the shaft 4 extends beyond the bracket 5 and is provided with a crank 7, to which is pivotally connected one end of a retractile coil spring 8. The upper end of this spring is connected to an eye bolt 9, which is rigidly secured to the rear wall of the casing 1. The forward end of the shaft 4 is provided with a crank 10, upon the free end of which is arranged a knob 11. The knob 11 and crank 10 serving as means whereby the shaft 4 may be manually rotated. The shaft 4 is provided inwardly of the casing 1 and adjacent the crank 10 with a ratchet wheel 12, which is rigidly secured to the same. A pawl 13 is pivotally mounted upon the forward wall of the casing 1, as shown at 14, to engage the ratchet wheel 12, as clearly shown in Fig. 2. By this construction it is obvious that the shaft 4 may be rotated clock-wise, but that the same cannot be rotated in the opposite direction, on account of the pawl 13 and ratchet wheel 12.

Rigidly mounted upon the shaft 4 is a rotatable member or drum 15, which is provided with a radially disposed slot 16 extending through the ends 17 of the same. Within the slot 16 and adjacent its forward end is disposed a pocket 18, having spaced side walls 19 which are secured to the side walls of the slot 16 by means of screws or the like, as shown at 20. A pin 21 is arranged adjacent the rear end of the drum 15, within the slot 16 and near the inner end of the same, as clearly shown in Fig. 1. Upon this pin is pivotally mounted a contact arm 22, provided near the pin 21 with an apertured ear 23, to which is connected one end of the retractile coil spring 24, the opposite end of which is connected to a bracket 25, which in turn is rigidly connected to the pocket 18, as shown at 26. The contact arm 22 is disposed within the slot 16 and is capable of oscillating within the same. The contact arm 22 is normally held in its lowermost position by the spring 24, and the same is moved from such position by the insertion of a coin within the pocket 18. The casing 1 is provided at its upper end and adjacent its forward side with a chute 27, within which a coin is inserted when being directed into the pocket 18. A track 28 is provided at its upper end with an arm 29 which in turn is provided with a base 30 to be rigidly connected to the top wall of the casing 1, as shown at 31. The track 28

is substantially semi-circular and has the same curvature as the periphery of the drum 15. This track is disposed adjacent the rear end of the drum 15. As clearly shown in 5 Fig. 2, the lower end of the track 28 is curved or bent forwardly, as shown at 32.

At the right of the drum 15 are disposed contacts 33, 34 and 35, which are supported by and insulated from the rear wall of the 10 casing 1. The contacts 33 are two in number and are disposed in the same vertical plane. There is only one contact 34 which is disposed in a vertical plane rearwardly of the first named vertical plane and there are 15 three of the contacts which are disposed in the same vertical plane, and which, in turn, is rearwardly of the second named vertical plane. The contacts 33 are disposed nearest the periphery of the drum 15, the 20 contact 34 a little farther removed and the contacts 35 at a distance outwardly of the contact 34. The contacts 33 and 35 have their ends terminating in arcs which are concentric to each other and to the drum 15. 25 The contacts 33 are connected in series with a wire 36, the contact 34 is connected to a wire 37 and the contacts 35 are connected in series by a wire 38. These wires are connected to a common wire 39 as shown at 40. 30 The wire 39 is connected to a contact 41, which forms a portion of an induction coil, comprising primary and secondary windings 42 and 43. The primary winding 42 has one end thereof connected to a post 43', 35 which has electrical connection with a vibrator 44 adapted to engage the contact 41. The opposite end of the primary winding 42 is connected to the negative terminal of a source of current 45, the positive terminal 40 of which is connected to a wire 46. This wire 46 is connected as shown at 47, to the bracket 5. The shaft 4 is provided adjacent the bracket 5 with a ring 48, which slidably engages said bracket and is electrically connected 45 by means of a wire 49 with the contact arm 22. The induction coil comprises the secondary winding 43, as above stated, and this winding is connected to wires 51 and 52 which lead to the central station. 50 The wire 52 is provided with a condenser 53, which is generally provided in a talking circuit.

In the operation of the device, if the call which is desired to be made costs ten cents, 55 the subscriber deposits a dime, designated in Fig. 1 by the numeral 54, within the chute 27 and the same travels downwardly and is deposited within the pocket 18, whereby the contact arm 22 is raised from its lowermost position. The subscriber then turns 60 the drum clockwise to bring the contact arm 22 into successive engagement with each of the contacts 33. When the contact arm 22 engages each of the contacts 33 a circuit is 65 completed through the wire 36, through con-

tacts 41 and 43 and the vibrator 44 into the primary winding 42 to one terminal of the source of current. The current flows from the positive terminal of the source of current through the wire 46, through bracket 5, 70 ring 48 and the wire 49 to the contact arm 22. The current then flows through the contact arm to the contact 33 and again to the wire 36 as above described. As long as the arm 22 is in engagement with each of the 75 contacts, the vibrator 44 is set in motion which produces a buzzing sound. An alternating current is induced in the secondary winding 43 and flows through the wires 51 and 52 which constitute the talking circuit between the subscriber and the operator at the central office. The operator is thus able to hear the buzz of the vibrator. Since there are two of the contacts 33, the operator at the central station will hear two 85 separate and distinct buzzes of the vibrator, whereby it will be known that the subscriber has deposited a ten cent piece. If the subscriber deposits a five cent piece, the contact arm 22 will be oscillated to engage 90 the single contact 34, and the operator at the central station will only hear a single buzz. Similarly if a quarter has been deposited, the contact arm 22 will engage successively the three contacts 35, to cause three 95 separate buzzes of the vibrator. After a coin has been deposited within the pocket 18, the same is held by the arm 22 until the drum 15 is rotated approximately a half a revolution, when the free end of the arm 22 100 is engaged by the curved end 32 of the track 28 and accordingly made to travel along such curved end and then upon the track 28. The coin is thus released and is free to be deposited within the lower portion of the 105 casing 1. It is to be noted that the arm 22 is not engaged by the bent end 32 of the track 28 until said arm has completed its engagement with the stationary contacts. After the drum 15 has been rotated clockwise for a little more than a half of a revolution, the spring 8 will return the same to its normal position, whereby the contact arm 12 will slip off of the upper end of the track 28 and be oscillated forwardly by a 115 spring 24, to assume its lowermost position. The drum 15 is capable of being rotated in one direction only, on account of the pawl 13 and the ratchet wheel 12, as above described.

We wish it understood that the form of 120 our invention herewith shown and described is to be taken as a preferred embodiment of the same, and that certain changes may be made in the form, size and arrangement of parts without departing from the spirit of 125 our invention, as set forth in the annexed claims.

Having fully described our invention, we claim:—

1. In a device of the character described, 130

a rotatable drum provided with a slot, a contact arm pivotally connected to said drum to oscillate within said slot and to be rotated by said drum and a plurality of
5 contacts to cooperate with said contact arm.

2. In a device of the character described, a rotatable drum, provided with a radially disposed slot, a contact arm pivotally mounted upon said drum to oscillate within said
10 slot, and rotate with the drum, a plurality of contacts to cooperate with said contact arm.

3. In a device of the character described, a rotatable drum, provided with a longitudinally disposed slot, a contact arm pivotally mounted within said slot and positioned to be engaged by a coin within the said slot, whereby said contact arm is held in a certain position, means to effect the disengagement
15 of said contact arm with the coin, and a plurality of contacts to cooperate with the contact arm.

4. In a device of the character described, a rotatable drum provided with a slot for the reception of a coin, a contact arm movably mounted within said slot to engage said coin, means to move the contact arm away from the coin so that the same may drop
25 from the slot, and a plurality of contacts to cooperate with the contact arm.

5. In a device of the character described, a rotatable drum provided with a slot for the reception of a coin, a contact arm disposed within said slot to be moved by said
35 coin, a track to engage the contact arm to move the same away from the coin whereby said coin may drop from the slot, and a plurality of contacts to cooperate with the contact arm.

6. In a device of the character described, a rotatable drum, provided with a slot for the reception of a coin, a contact arm pivotally mounted within the same to engage said coin, means to retain the contact arm
45 in its normal engagement with the coin, means to swing said contact arm away from the coin, means to rotate said drum, and means to return said drum to its normal position.

7. In a device of the character described, a rotatable drum provided with a slot for receiving a coin, a contact arm disposed within said slot and having pivotal connection with said drum, and stationary contacts
55 disposed in different planes to be directly engaged by said contact arm.

8. In a device of the character described, a rotatable drum provided with an opening

for receiving a coin, a contact arm movably mounted within said opening and to be rotated with said drum, stationary contacts for cooperation with the contact arm, and a stationary track to engage the contact arm during the rotation of the drum to move said contact arm for allowing the release of
60 the coin.

9. In a device of the character described, a rotatable drum provided with an opening for receiving a coin, a contact arm mounted within said opening and having pivotal connection with said drum and to be rotated with said drum, stationary contacts for cooperation with the contact arm, means to normally urge the contact arm into engagement with the coin, and means to engage
70 said contact arm during the rotation of said drum to effect the disengagement of said contact arm and coin.

10. In apparatus of the character described, a rotatable temporary coin receiver, a contact arm having connection with said coin receiver for rotation therewith, said contact arm being positioned for engagement with a coin inserted within said coin receiver, whereby the position of said contact
80 arm with relation to the coin receiver depends upon the size of the said coin, and a plurality of contacts for cooperation with said contact arm.

11. In apparatus of the character described, a rotatable temporary coin receiver, a contact arm having pivotal connection with said coin receiver for rotation therewith, said contact arm being positioned for engagement with a coin inserted within said coin receiver, an elastic member to oscillate the contact arm in one direction, and a plurality of contacts disposed in different planes for cooperation with said contact
90 arm.

12. In apparatus of the character described, a movable temporary coin receiver, a contact arm having pivotal connection therewith to move with the same, said contact arm being positioned for engagement with a coin inserted within said coin receiver and a plurality of contacts to cooperate with said contact arm.
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In testimony whereof we affix our signatures in presence of two witnesses.

RUSSELL REITZEL MOHN.
NOAH WINE.

Witnesses:

C. W. SENNEFF,
MAX F. ALLAKU.