

No. 675,212.

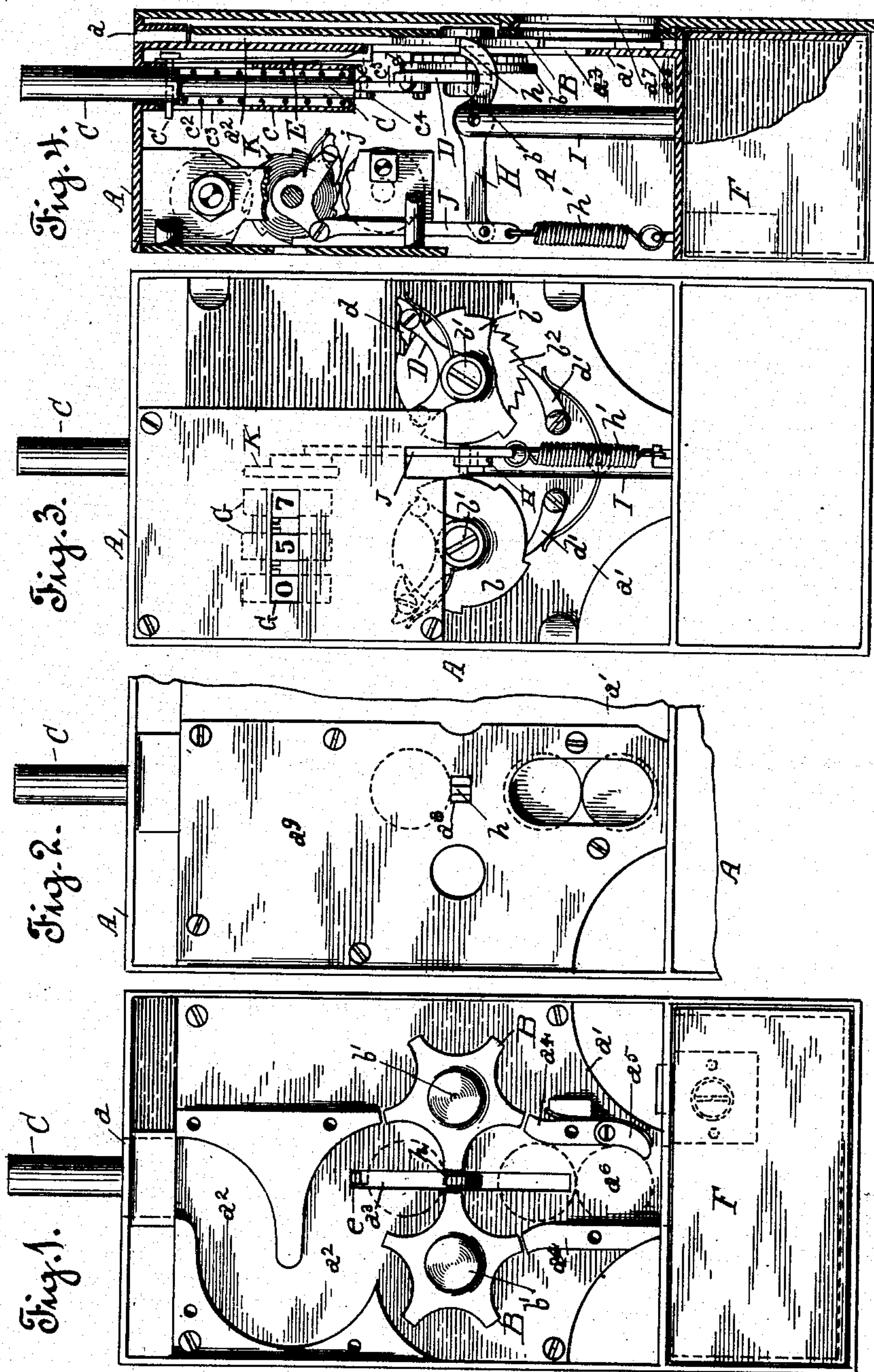
Patented May 28, 1901.

L. H. HANDY & C. S. HOSFORD.  
REGISTERING TOLL APPARATUS.

(No Model.)

(Application filed Oct. 11, 1900.)

2 Sheets—Sheet 1.



Witnesses.

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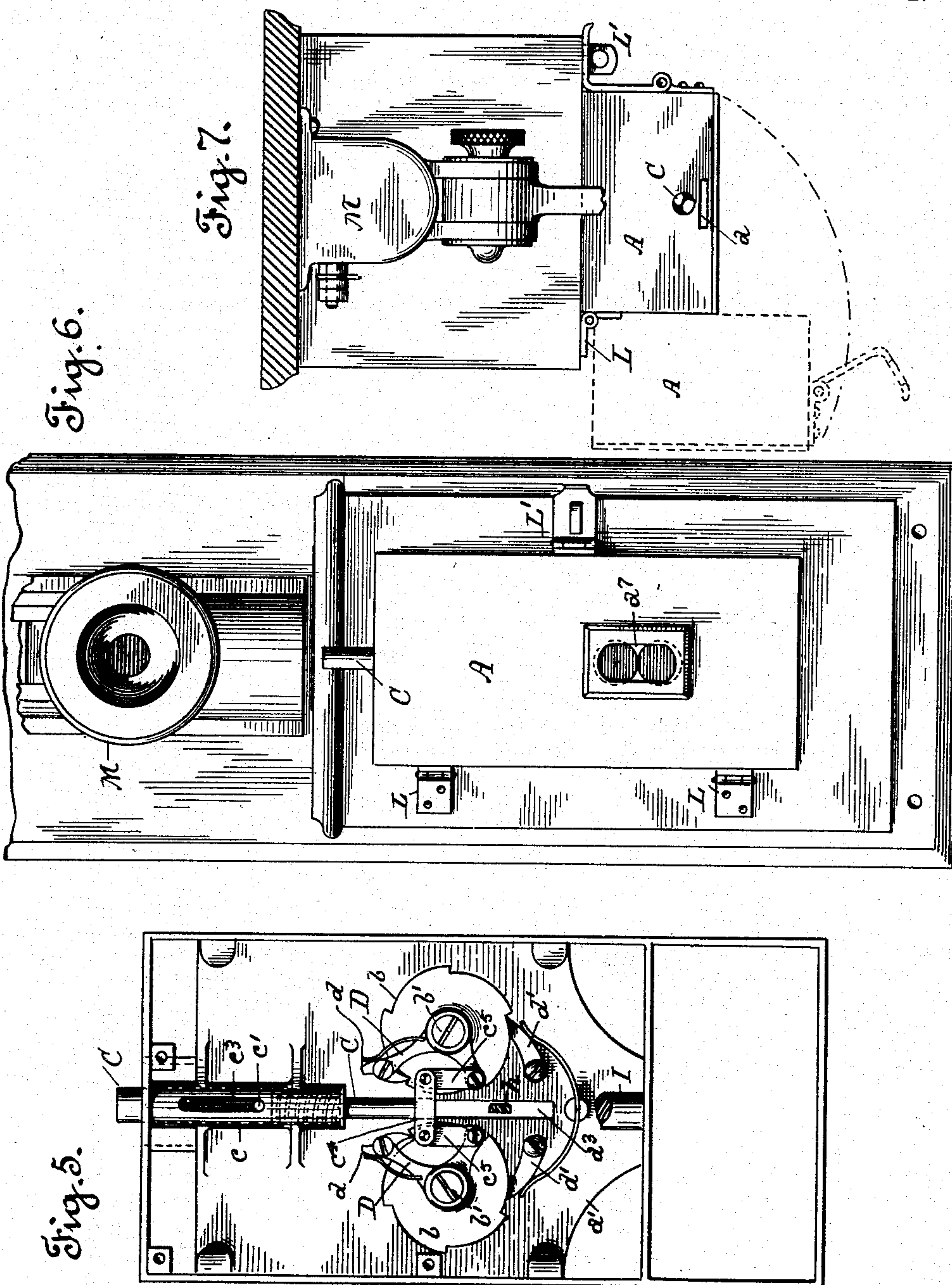
Lucien H. Handy,  
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their Attorney.

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2 Sheets—Sheet 2.



Witnesses.

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# UNITED STATES PATENT OFFICE.

LUCIEN H. HANDY, OF SAN FRANCISCO, AND CHARLES S. HOSFORD, OF  
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## REGISTERING TOLL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 675,212, dated May 28, 1901.

Application filed October 11, 1900. Serial No. 32,737. (No model.)

*To all whom it may concern:*

Be it known that we, LUCIEN H. HANDY, residing in the city and county of San Francisco, and CHARLES S. HOSFORD, residing at Berkeley, Alameda county, State of California, citizens of the United States, have invented certain new and useful Improvements in Registering Toll Apparatus; and we do hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to the class of toll apparatuses in general, but particularly to the class of telephone attachments for the purpose of receiving a coin or other toll-token, and thereby giving notice of its deposit as a preliminary to giving the required connection at the central office.

The objects of our invention are to provide greater security against dishonest tampering with or manipulation of the apparatus by the user and to provide a check upon the company's collector by a permanent registration of each toll deposited.

Our invention consists in the novel locking and retaining mechanism for the toll, whereby the signal of its deposit is not given before its engagement by said mechanism and whereby after such engagement it is impossible to withdraw it.

It also consists in the novel mechanism for registering or recording each toll as it is deposited.

It also consists in the novel arrangement, construction, and combination of parts, which we shall hereinafter fully describe and claim by reference to the accompanying drawings, in which—

Figure 1 is a front view of our apparatus, the front of the box and the partial plate  $\alpha^9$  being removed. Fig. 2 is a front view with the front of the box removed, but the plate  $\alpha^9$  in place. Fig. 3 is a back view of the box with the back removed, but showing the registering device in place. Fig. 4 is a vertical central section of the box in a plane at right angles to its front. Fig. 5 is a back view of the box, the back being removed, the registering device omitted, and the push-rod C pressed down to its limit. Fig. 6 is a view showing the attachment of the box to a telephone in-

strument. Fig. 7 is a top view of same, showing the box swung outwardly in dotted lines.

A is a box to be secured to the telephone instrument M, Figs. 6 and 7. In its top is a slot  $\alpha$ , Figs. 1, 4, and 7, to receive the toll. This slot communicates with a passage  $\alpha^2$ , which is best a tortuous one, as shown in Fig. 1, and into which the nickel or other toll-token drops from the slot  $\alpha$  and passes by gravity downwardly.

B B, Fig. 1, are two rotatable toothed feeding and locking disks. These are pivotally mounted in a vertical plate  $\alpha'$  in the box and are so arranged that the space between their uppermost teeth is at the base of the coin passage or runway  $\alpha^2$ , so that the toll-token drops down upon said disks and temporarily rests in this space, as seen in dotted lines in Fig. 1, the distance between the teeth of the disks being sufficient to receive and partially embrace said token.

C is a spring-controlled push-rod, the head of which rises above the box A in convenient position to be pressed downwardly. This rod operates in a sleeve  $c$ , Figs. 4 and 5, and has a stud  $c'$  and a spring  $c^2$ . The stud projects through a slot  $c^3$  in the sleeve, which thus forms a guide for the rod, and its base forms a stop to limit the downward movement of the rod, as is seen in Fig. 5. The lower end of this rod has a cross-foot  $c^4$ , Fig. 5, the extremities of which are connected by links  $c^5$  with the pivoted bell-crank levers D, mounted upon the shafts or axes  $b'$  of the disks B B, and said levers carry in their outer extremities the actuating-pawls  $d$ , Figs. 5 and 3, controlled by springs and adapted to engage with the ratchets  $b$ , fast on the shafts  $b'$  of the feeding and locking disks B B and lying back of plate  $\alpha'$ . Upon shafts  $b'$  are other ratchets  $b^2$ , Fig. 3, with which retaining-pawls  $d'$  engage, whereby the disks B B are locked against any reverse rotation. These ratchets  $b^2$  have many teeth, so that the engagement of the retaining-pawls is practically continuous, thereby locking the disks B B against return movement from any position.

Secured to the push-rod C is a spring-arm E, Fig. 4, having an inclined foot  $e$ . In the



box-plate  $a'$  is a vertical slot  $a^3$ , Figs. 1 and 3, through which the inclined foot of the spring-arm E plays. The normal spring tendency of the arm is outwardly, so that as the push-rod moves down the foot  $e$  of the arm projects outwardly in and through the slot  $a^3$ ; but when the push-rod is up at its highest point the incline of said foot, coming in contact with the top wall of the slot, forces said foot backwardly, so that it does not project through the slot, thereby leaving the face of plate  $a'$  smooth, as seen in Fig. 4.

Below the feeding and locking disks B B are the guides  $a^4$ , Fig. 1, one of which has the swinging spring-controlled toe-piece  $a^5$ . These guides form a second runway  $a^6$  or a lower continuation of the first for the coins and is best made long enough to hold two coins, as seen in Fig. 1, which are disclosed through a window  $a^7$  in the box-front, Fig. 6. Below this runway  $a^6$  is the money-drawer F.

The operation of the parts as thus for described is as follows: A coin or toll-token being deposited in slot  $a$ , passes by gravity down the tortuous passage or runway  $a^2$  and rests in the embracing teeth of the feeding and locking disks B B. Then the push-rod C is forced down. Immediately the foot  $e$  of spring-arm E, being free of the top wall of slot  $a^3$ , moves outwardly and lies directly above the coin or toll-token, Fig. 1. At the same time the pawls  $d$  turn the ratchets  $b$ , which turn the disks B B, and as the foot  $e$  pushes down on the coin the disks turn inwardly before it and their teeth close in over it, thus taking it away from the foot  $e$ , and thereafter said disks feed it downwardly between them until it drops into the lower runway  $a^6$  and temporarily rests in the lower end thereof and is there exposed to view behind the window  $a^7$  in the box-front. In this position the coin or toll-token is locked against any retraction, for it cannot be pulled up between the teeth of disks B B, for said disks are held against any return or reverse rotation by the retaining-pawls  $d'$ . Also only when it is locked by the disks is it intended that the electric signal of its proper deposit shall be given. A second coin, following the course of the first, drops down upon and rests on the first coin, thereby exposing two coins, which is of advantage in reducing the chances in public places of the purchase of one proper token and the use in addition thereto of an improper token, thereby gaining two switches for the price of one. A third coin when it is fed down pushes the first coin down past the spring toe-piece  $a^5$  into the coin-drawer F.

In the back of the box A is a registering mechanism, Figs. 3 and 4, consisting of a plurality of disks G of any usual and common arrangement and having on their rims, exposed through the back of the box, the usual numbers of a register, as seen in Fig. 3. To operate this register, there is a lever H, pivoted in a post I in the box. The front end  $h$  of this lever passes through the slot  $a^3$ ,

Figs. 1 and 4, and normally lies between adjacent teeth of disks B B and in the pathway of the coin. The rear end of the lever is connected with a rod J, the upper end of which is connected with a pawl  $j$ , engaging a ratchet K, which actuates the registering mechanism. Thus when the coin is fed down, as heretofore described, it pushes down the forward end of lever H, thereby lifting its rear end, and through the rod J the register is thereby actuated every time a coin passes down.

A spring  $h'$  serves to return lever H, the front end  $h$  of said lever finding a stop in a hole  $a^8$ , Fig. 2, in a plate  $a^9$ , which said plate serves as a cover to complete the runways and protect the parts behind it, as seen in Fig. 2. This record of the deposited coins acts as a check on the collector in the same manner as such devices serve their purpose in other apparatuses. Being at the back of the box, it is not in view of the subscriber and presents, therefore, no inducement to him to economize. In securing the box to the telephone instrument M it is best hinged at the back edge of one side, as shown at L in Figs. 6 and 7, so that it folds with its back against its bearing and swings outwardly to expose its back, as seen by the dotted lines in Fig. 7. It is locked on the other side at L', and the money-drawer F is best arranged to slip out from the back, a suitable lock being provided.

The tortuous runway  $a^2$  is to prevent a metallic instrument being inserted to give the signal.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a toll apparatus, the combination of a box, having a runway for the passage of the deposited toll, a pair of rotatable, toothed disks, interposed in said runway, and adapted to receive the toll between them, a push-rod, to be operated from the exterior of the box, mechanism operated by the push-rod, for turning said disks, to feed the toll down between them, and a means for locking said disks against a reverse rotation.

2. In a toll apparatus, the combination of a box, having a runway for the passage of the deposited toll, a pair of rotatable, toothed disks, interposed in said runway, and adapted to receive the toll between them, a push-rod to be operated from the exterior of the box, a pawl-and-ratchet mechanism connecting the push-rod and the disks, whereby the movement of the rod turns the disks, to feed the toll down between them, and a means for locking said disks against a reverse rotation.

3. In a toll apparatus, the combination of a box, having a runway for the passage of the deposited toll, a pair of rotatable, toothed disks interposed in said runway, and adapted to receive the toll between them, a push-rod to be operated from the exterior of the box, a pawl-and-ratchet mechanism connecting the push-rod and the disks, whereby the movement of the rod turns the disks, to feed the



toll down between them, and a second pawl-and-ratchet mechanism for locking said disks against a reverse rotation.

4. In a toll apparatus, the combination of a box, having a runway for the passage of the deposited toll, a pair of rotatable, toothed disks interposed in said runway, and adapted to receive the toll between them, a push-rod to be operated from the exterior of the box, mechanism operated by the push-rod for turning said disks, to feed the toll down between them, a pusher-foot, carried by the push-rod, for engaging the toll, to primarily feed it between the disks, and means for locking said disks against a reverse movement.

5. In a toll apparatus, the combination of the box, having an interior plate with a slot  $a^3$ , and a runway on the face of the plate, to direct the deposited toll to overlie the slot, a pair of rotatable, toothed disks carried by said plate, on each side of its slot, and in the course of the runway, a push-rod to be operated from the exterior of the box, a spring-arm carried by the push-rod, and having a foot, adapted by the movement of the arm to be projected through and retracted from the slot of the plate, whereby it is adapted to engage and feed the toll downwardly, mechanism operated by the push-rod, for turning the disks, to feed the toll down between them, and a means for locking said disks against a reverse rotation.

6. In a toll apparatus, the combination of a toll-receiving box having a runway for the passage of the deposited toll, a pair of rotatable disks interposed in said runway to receive the toll, a push-rod and connections, for turning the disks, to feed the toll down between them, a means for locking said disks against a reverse rotation, a registering device, and a mechanism operated by the deposited toll in its travel between the disks, for actuating the registering device.

7. In a toll apparatus, the combination of a toll-receiving box having a runway for the passage of the deposited toll, a pair of rotatable disks interposed in said runway to receive the toll, a push-rod and connections, for turning the disks, to feed the toll down between them, a means for locking said disks against a reverse rotation, a registering device, a lever having one end projecting into the runway between the disks, and in the path of the toll, whereby it is operated and connections from the other end of the lever, to actuate the registering device.

In witness whereof we have hereunto set our hands.

LUCIEN H. HANDY.  
CHARLES S. HOSFORD.

Witnesses:

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