

No. 655,772.

Patented Aug. 14, 1900.

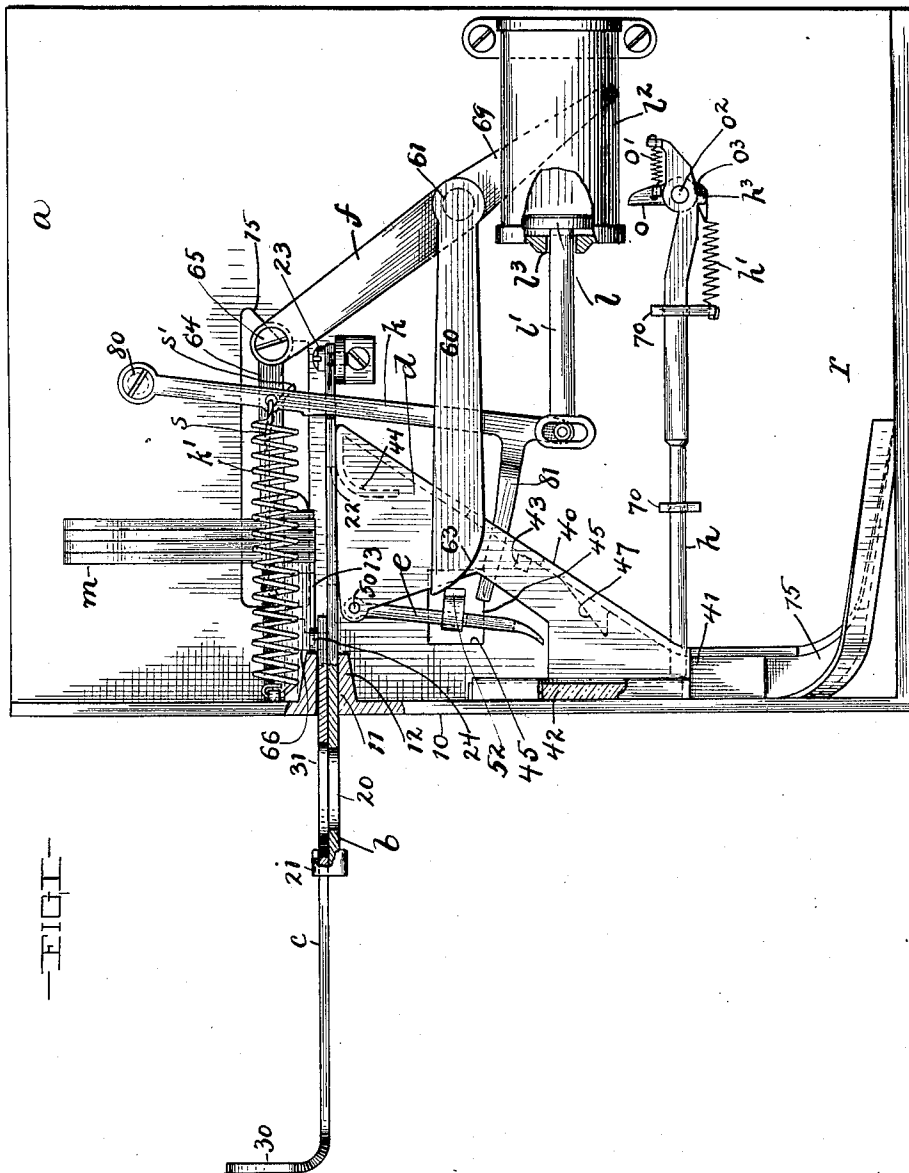
W. A. FOSS.

TELEPHONE TOLL APPARATUS.

(Application filed Feb. 26, 1900.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES :

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3 Sheets—Sheet 2.

FIGURE III

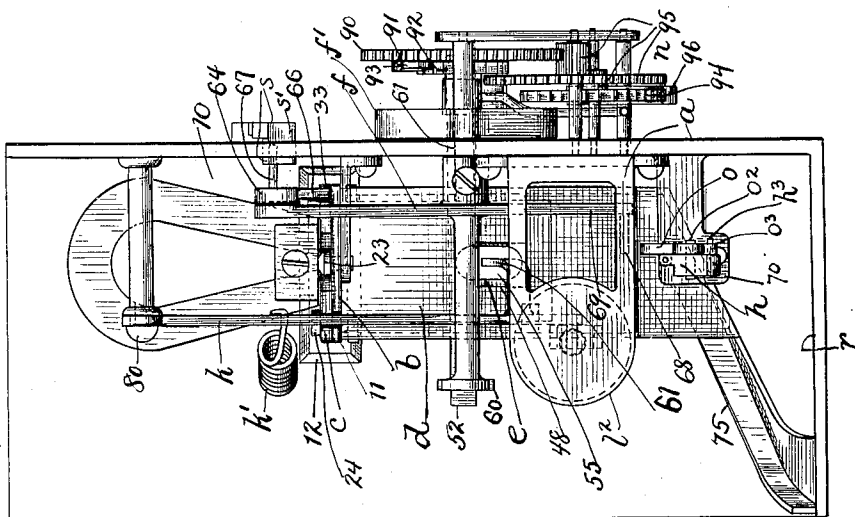
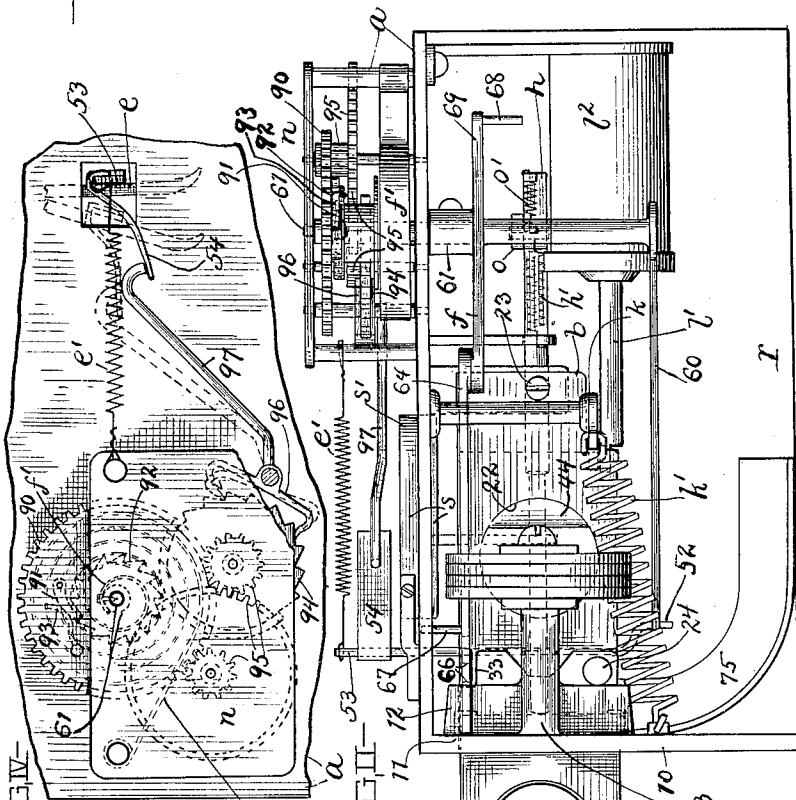
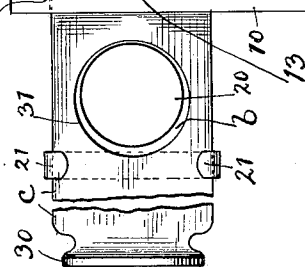


FIGURE IV



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FIGURE V



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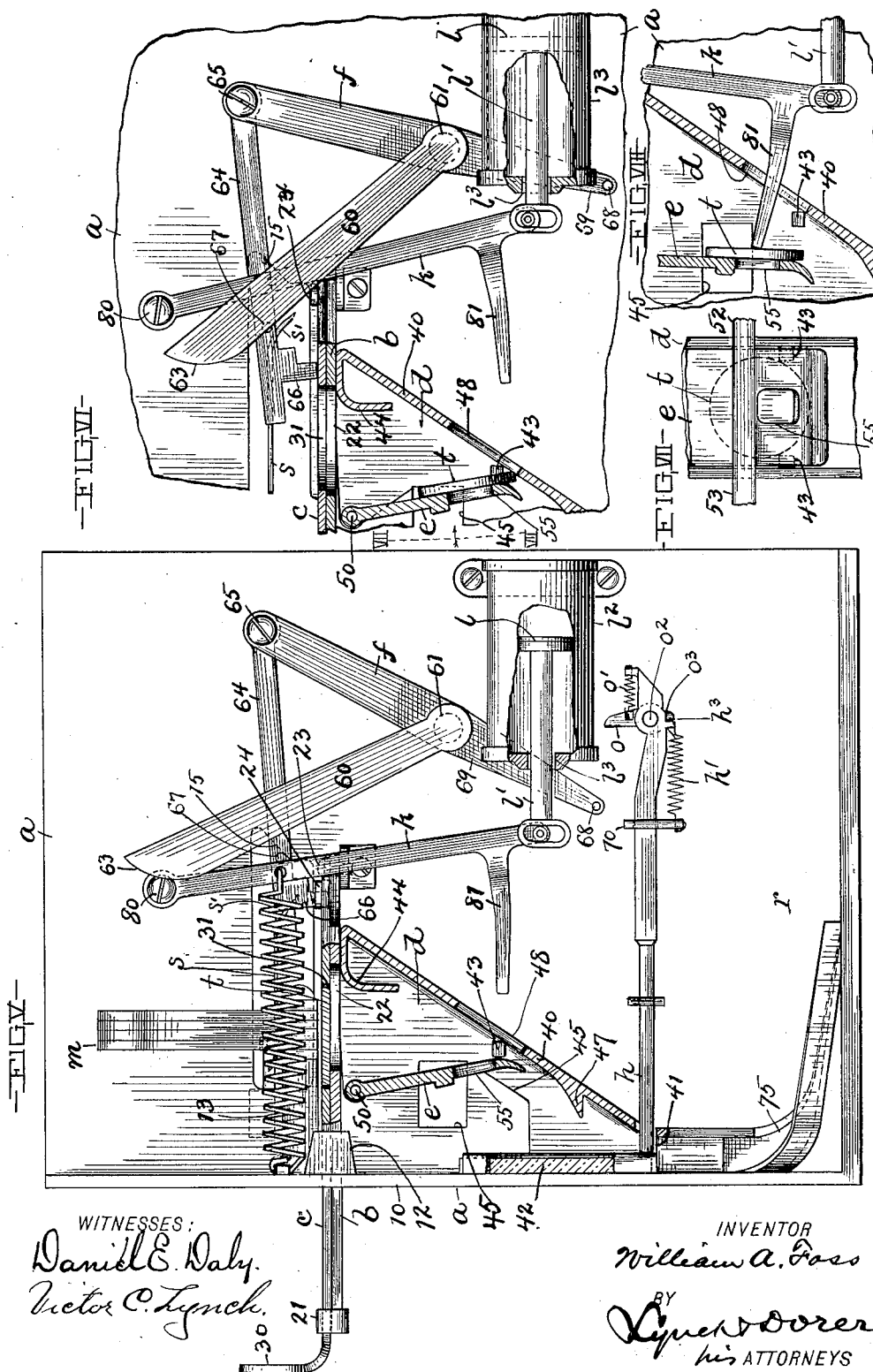
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3 Sheets—Sheet 3.



UNITED STATES PATENT OFFICE.

WILLIAM A. FOSS, OF CLEVELAND, OHIO, ASSIGNOR TO THE AMERICAN
TOLL TELEPHONE COMPANY, OF SAME PLACE.

TELEPHONE TOLL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 655,772, dated August 14, 1900.

Application filed February 26, 1900. Serial No. 6,583. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. FOSS, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Toll-Collecting Machines for Telephones; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in toll-collecting machines for telephones; and it consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

The primary object of this invention is to provide a machine of the character indicated that will inform the telephone-exchange when a coin or check required to pay the toll for the use of the machine has been conducted into the machine beyond control of the person paying the toll, that is exceedingly simple in construction and reliable in its operation, that possesses other novel and meritorious features, as will hereinafter more fully appear, and that more especially comprises a clockwork whose operation is audible at the telephone-exchange and that is operated by an ordinary clock-spring that is always partially wound up and is wound up still further during the operation of the toll-collecting machine by other mechanism that forms a part of the machine.

In the accompanying drawings, Figure I is a side elevation, partly in section, of a machine embodying my invention. Fig. II is a top plan of the same. Fig. III is a rear end elevation of the machine. Fig. IV is a side elevation showing the clockwork that is wound up during the operation of the machine and that is instrumental in signaling to the telephone-exchange that the proper coin or check has been introduced into the machine beyond the control of the operator. Fig. V is a side elevation, partly in section, corresponding with Fig. I, except that in this figure the coin or check is being fed to the inlet of the hopper provided to receive the same and some of the movable parts have been actuated into a position different from that occupied by them in their normal position illus-

trated in Fig. I. Fig. VI is a side elevation, partly in section, and illustrates the position of parts when a coin or check has dropped into the hopper below the path of the coin-feeder. Fig. VII is an elevation on line VII VII, Fig. VI, looking in the direction of the arrow. Fig. VIII is a side elevation, partly in section, showing the manner of dislodging a coin or check from the internal shoulders of the hopper and the operation of the coin or check after its dislodgment.

Referring to the drawings, *a* designates the stationary framework of the machine that comprises a front 10. The front 10 is provided with a horizontally and transversely arranged slot 11. A table *b* rests upon the bottom of the said slot and extends from a suitable distance forward of the front 10 through the slot 11 and rearwardly of the said front a suitable distance. The toll-feeder is mounted upon and movable endwise of the table *b* through the aforesaid slot, that is consequently large enough vertically to accommodate the location and operation of the said feeder, that consists, preferably, of a slide-forming plate *c*, provided at its outer end with a handle 30. The slide *c*, between the central portion and inner end of the same, is provided with an aperture 31, that is preferably just large enough to receive the coin or check required in payment of the toll charged for the use of the telephone that is provided with my improved machine, and if therefore the toll is a nickel the said aperture would be just large enough to easily receive a nickel. The relative arrangement of the slide *c* and the table *b* is such that the aperture 31 of the slide shall when the slide is in its extreme outer or toll-receiving position be in position over the table at the outer side of the front 10, and the table outside of the front 10 is provided, preferably, with an aperture or perforation 20 for affording access, as shown in Figs. I and II, from below to a coin or check placed by mistake or inadvertence within the aperture 31 of the slide *c* and facilitates the removal of the said coin or check from the slide. The table *b* has its outer end provided with two guide-forming members 21 and 21, that are arranged at opposite longitudinal edges of the slide *c* and somewhat over-

lap the upper side of the latter and prevent displacement of the slide laterally upon the table. The slot 11 is enlarged and extends rearwardly through a lug 12, with which the front 10, upon its rear or inner side, is provided, and the lug 12 is provided at the top with an inwardly-projecting flange 13, to which the permanent magnet *m* is secured in any approved manner. The magnet *m* has its lower end extending into close proximity to the path of the slide *c*, and the arrangement of parts is such that the toll-receiving aperture 31 of the slide *c* shall in the extreme inner position of the said slide, as shown in Fig. VI, register with an aperture 22, with which the table's portion that is underneath the aforesaid magnet is provided. The aperture 22 is large enough to accommodate the passage downwardly therethrough of a coin or check received thereby from the aperture 31 of the slide *c*. The inner and toll-discharging portion of the table *b* constitutes the top of a hopper *d*, and consequently a coin or check carried by the slide *c* upon the table *b* and not attracted by the magnet will as soon as the said slide has been actuated into its extreme inner position register fully with the hopper-inlet-forming aperture 22 of the table and drop by gravity into the said hopper. Obviously the magnet will attract any slug or counterfeit of iron or steel or other material that is sufficiently magnetic to render it capable of being attracted by the magnet, but will not attract a nickel or brass check that is not sufficiently magnetic to render it capable of being attracted by the magnet. It is obvious, of course, that a circular brass or non-magnetic check having the dimensions of a nickel would be suitable for use in the operation of the machine that could be operated by a nickel, and in many instances the proprietor or person having charge of the toll-collecting telephone would exchange such checks that would be used exclusively for any money equivalent, so that a person desiring to use the machine would not necessarily be required to have a nickel in order to enable him to use the machine, but any other money equivalent—such, for instance, as five one-cent coins—would enable him to obtain the check required for the use of the telephone.

An upwardly-projecting lug or member 23, formed upon the inner end of the table *b*, operates, in conjunction with the inner end of the slide *c*, in limiting the inward movement of the said slide, and the arrangement of parts is, of course, such that the slide when it is in its extreme inner position, with its aperture in registry with the inlet of the hopper, will engage the aforesaid stop-forming member 23. An inwardly-projecting lug or member 24, that is formed upon the inner end of the slide *c*, cooperates with the free end of the lug 12 in limiting the outward movement of the slide, and the arrangement of parts is such that the said member 24 of the slide when the latter

is in position with its aperture outside of the front 10 will engage the free end of the said lug 12. The hopper *d* has its rear wall 40 inclining downwardly and forwardly toward the outlet 41, with which the lower end of the said hopper is provided, and the forward side wall of the hopper is formed in the main by a window 42, through which the coin or check received by the hopper is visible. One or both of the side walls of the hopper are provided with an inwardly-projecting lug or shoulder 43, that is instrumental in arresting a proper coin or check dropping into the hopper. Preferably the hopper is provided with two internal lugs or shoulders 43 and 43, arranged the distance apart required to render them capable of forming a stop or seat for arresting the predetermined size of coin or check necessary to effect the operation of the machine, but far enough apart to permit the downward descent between them of a coin of smaller size, so that, for instance, a machine adapted to be operated by a nickel or corresponding check could not be operated by a cent, because the latter would be too small to be arrested by the lugs or shoulders 43 of the hopper. A forwardly and rearwardly swinging gate *e*, that is arranged between the forward and rearward walls of the hopper, cooperates with the shoulders 43 in preventing a proper coin or check from descending into the extreme lower end of the hopper, as shown in Figs. V, VI, and VII.

The gate *e*, that, as already indicated, is arranged within the hopper *d*, has its upper end pivoted horizontally and transversely of the hopper, as at 50, to the side walls of the hopper, so as to render it capable of swinging forwardly and rearwardly. In the normal position of the parts the gate *e* is in its forwardly-swung position, as shown in Fig. I, and is held in this position by the outer end of an arm 60, that projects forwardly from an upright rearwardly and forwardly tilting lever *f*, that is operatively mounted at or near its central portion upon a horizontally-arranged shaft 61, that is supported from the stationary framework of the machine. The free or outer end of the arm 60 is beveled upon its under side, as at 63, and the beveled or sloping surface 63 normally engages and bears forwardly upon an arm 52 of the gate *e* and acts to hold the said gate in its forwardly-swung position.

A suitably-applied ordinary clock-spring *f'* acts to retain the lever *f* and attached members in their normal position, wherein the lever inclines forwardly, as shown in Fig. I, and has its arm 60 holding the gate *e* forwardly against the action of a suitably-applied spring *e'*, that acts to swing the gate *e* rearwardly into the said gate's operative position. The clock-spring *f'* is mounted upon the shaft 61 and has opposite ends attached to the said shaft and to the stationary framework, respectively, as shown more clearly in Fig. IV. The spring *e'* has one end attached

to the stationary framework and has its other end attached to an arm 53 of the gate *e*, as shown more clearly in Figs. II and IV.

The arrangement of the parts is such that in their normal position the slide *c* is in its extreme outer position and has its inner end arranged to engage the forward side of a lug 66, formed upon and depending from the lower side of the forward end of a vertically-tiltable bar 64, that extends forwardly from and has its rear end pivoted horizontally, as at 65, to the upper end of the lever *f*. The inward actuation of the slide *c* will result, therefore, in the tilting of the lever *f* rearwardly. The spring *f'* is preferably normally partially wound up, and the arrangement of the said spring is such that it will be wound up still further upon the tilting of the lever *f* rearwardly, as aforesaid. Preferably the lug 66 of the bar 64 engages a recess 33, formed in the rear end of the slide, as shown more clearly in Figs. II and III. In Fig. V the slide *c* is shown feeding a coin or check *t* to the hopper *d*, but not yet having quite actuated the coin or check *t* into complete registry with the inlet of the hopper. Obviously the lever-arm 60 during the inward actuation of the slide *c* releases the gate *e* and permits the spring *e'* to actuate the said gate rearwardly into engagement with the shoulders 43 of the hopper, as shown in Figs. V and VI, so that when the slide has been actuated into the extreme inner position and the coin or check *t* fed by the slide has dropped into the hopper and alighted upon the shoulders 43 the said coin or check is prevented from falling forwardly from the said shoulders by the gate *e*, as shown in Fig. VI. To trip the coin or check upon the passage of the same through the inlet of the hopper and cause it to alight edgewise upon the shoulders 43, the hopper *d* is provided within the upper end of its rear portion next below the inlet of the hopper with a rounded projection 44, arranged transversely of the hopper and in position to be engaged by the rear portion of the under side of the coin or check dropping into the hopper, so as to cause the coin or check to descend edgewise within the hopper. The sides of the hopper are of course suitably slotted or cut away, as at 45, to accommodate the location and operation of the arms 52 and 53 of the gate *e*.

The outlet 41 of the hopper is normally interrupted by a gate-forming reciprocating rod or bar *h*, as shown in Figs. I and V.

To prevent a coin or check that is smaller in dimensions than the coin or check required for the operation of the machine from being instrumental in plugging or obstructing the passage-way through the hopper by piling up or accumulating edgewise upon the rear wall of the hopper, I provide the said wall, below the path of the gate *e*, with a lug 47, projecting forwardly and downwardly a short distance and constituting a guide that is instrumental in diverting the coin or check descend-

ing between and not arrested by the shoulders 43 into the forward side of the hopper at the rear of the latter's window and cause the said coin or check to lodge edgewise upon the gate *h*. The conveyance of a coin or check that is too small to render it capable of being arrested by the shoulders 43 of the hopper into the lower portion of the hopper is important, because it enables the proprietor or person in charge of the telephone provided with my improved machine to see whether or not the user of the machine has used the proper coin or check required to operate the machine and prevent the user from making a claim that he did use the proper coin or check, because whatever coin or check he may have used will be visible through the window of the hopper until the next coin or check required to operate the machine has been introduced. As will hereinafter appear, the gate *h* is operated to permit the escape of a coin or check lodged thereon within the hopper before another proper coin or check has operated the machine.

The mechanism employed in the dislodgment of the coin or check arrested by the internal shoulders 43 of the hopper and in the actuation of the said coin or check with the gate *e* in a forward direction against the action of the spring *e'* comprises, preferably, an upright forwardly and rearwardly tilting lever *k*, that is fulcrumed at its upper end, as at 80, to the stationary framework of the machine and has its lower end provided with a forwardly-projecting arm 81. The arrangement of the parts is such that in their normal position the said lever *k* has its arm 81 projecting into the hopper behind the gate *e*, as shown in Fig. I. A suitably-applied spiral spring *k'* acts to retain the lever *k* in its forwardly-swung or normal position. The spring *k'* has its opposite ends attached to the lever *k* and to the stationary framework, respectively. The lever *k* is arranged, as required, to render it capable of being engaged by the rear end of the slide *c* during the inward actuation of the said slide, as shown in Fig. V. The arrangement of the parts is such that the actuation of the slide *c* into its extreme inner position swings the said lever *k* rearwardly against the action of the spring *k'*, far enough to remove the arm 81 of the said lever from within the hopper *d* and prevent the said arm from obstructing the descent of a coin or check to the internal shoulders 43 of the hopper. Obviously the spring *k'* in the extreme inner position of the slide *c* also acts to return the said slide into its normal position. To retard the movement of the lever *k* into its normal position by the spring *k'* after the actuation of the said coin or check by the slide *c*, as aforesaid, and thereby to prevent the arm 81 of the said lever *k* from possibly reëntering the hopper *d* before the coin or check fed by the slide *c* to the hopper shall have had time to descend and reach the internal shoulders 43 of the hopper,

the said lever *k* has its lower end operatively attached to the outer end of the rod *l'* of a piston *l*, that is arranged to operate within and endwise of a cylinder *l''*, supported from the stationary framework of the machine and arranged rearward of the lever. The forward end of the cylinder *l''* has an air-inlet *l'''*, that is formed, preferably, by making the aperture in the cylinder's forward head through which the piston-rod extends somewhat larger diametrically than the cross-sectional area of the rod. Hence during the actuation of the lever *k* in a rearward direction from its forward or normal position against the action of the spring *k'* during the feeding of a coin or check to the hopper the piston *l* is actuated in the direction of the rear end of the cylinder and air enters the cylinder forward of the piston, so that when the slide *c* has been actuated into its extreme inner position and the coin or check has dropped into the hopper the action of the said spring *k'* to return the said lever *k* into its normal position will be retarded by the air-cushion formed within the cylinder *l''*, forwardly of the piston *l*, and the lever instead of being thrown by the spring into its normal position rapidly will return gradually into the said position and give the coin or check discharged into the hopper ample time to reach the internal shoulders 43 of the hopper before the arm 81 of the said lever again enters the hopper. The rear wall of the hopper *d* is of course suitably slotted, as at 48, to accommodate the location and operation of the lever-arm 81.

Means for interrupting operative engagement between the bar 64 and the slide after the slide has been actuated almost into its inner extreme position—for instance, when the slide has moved inwardly as far as illustrated in Fig. V—is provided and comprises, preferably, a rearwardly and upwardly extending incline 15, formed upon the stationary framework, as shown in Figs. I and V, and arranged to be engaged by a laterally-projecting lug or pin 67 of the said bar 64 during the further actuation of the lever *f* in a rearward direction. In Fig. V the bar 64, that is tilting the lever *f* rearwardly and has its lug or pin 67 engaging the lower end of the incline 15, and obviously the remaining movement of the slide *c* required to actuate it into its extreme inner position, causes the pin or lug 67 to ride up the said incline, and thereby lift the bar 64 out of operative engagement with the slide *c*, and consequently interrupt operative connection between the said slide and the lever *f*.

A clockwork *n* is operatively connected with the shaft 61 and comprises a train of gears and an escapement of any approved construction, as shown in Figs. II, III, and IV. The train of gears comprises a spur-gear 90, operatively mounted upon the shaft 61 and carrying a pawl 91, that is pivotally supported from the said gear and has the ar-

range ment required to render it capable of operatively engaging and cooperating with a ratchet-wheel 92, that is operatively mounted upon the aforesaid shaft 61. A suitably-applied spring 93 acts to retain the pawl in engagement with the ratchet-wheel, and the arrangement of parts is such that the said pawl and the ratchet-wheel will prevent the return of the lever *f* by the action of the spring *f'* independently of the operation of the clockwork upon the rearward actuation of the said lever by the slide *c*. In the normal position of the parts the clockwork has run down, as shown in solid lines, Fig. IV, but is wound up during the rearward tilting of the lever *f*. The clockwork, as already indicated, comprises an escapement whose escape-wheel 94 is intergeared, as at 95, with the gear 90 and whose anchor 96 is centrally pivoted in the usual manner to the stationary framework and has an arm or lever 97 extending from the central portion of the anchor forwardly and upwardly to and has its forward end overlapping and resting upon a member 54, formed upon and projecting rearwardly and downwardly from the arm 53 of the gate *e*. The arrangement of the parts is such that the member 54 of the gate *e*, when the latter is swung rearwardly by the action of the spring *e'* during the rearward tilting of the lever *f*, will be elevated, as shown in dotted lines, Fig. IV, and thereby actuate the arm or lever 97 of the escapement's anchor in the direction required to prevent the running down of the clockwork until after the arm 81 of the lever *k* is permitted to return in a forward direction after the lever *f* has been tilted into its extreme rearward position by the slide *c*, and consequently the clockwork that has been wound up during the said operation of the said lever *f* is not permitted to run down until after the coin or check fed to the hopper *d* during the said operation of the lever *f* by the slide *c* has lodged upon the shoulders 43 of the said hopper in position to establish operative connection between the arm 81 of the lever *k* and the gate *e* during the subsequent return of the said lever *k* into its forward and normal position. Fig. VIII shows the manner in which the coin has been dislodged from the shoulders 43 and the formation of an operative connection by the coin or check between the arm 81 of the lever *k* and the gate *e*. Obviously the arm 81 of the lever *k* as soon as it comes into engagement with the coin or check during the return of the said lever into its normal position actuates the gate *e* through the medium of the coin or check into its forwardly-swung or normal position, and thereby causes the member 54 of the said gate to release or recede from the arm or lever of the escapement and permit the operation of the clockwork by the action of the spring *f'*, which operation results in the vibration of the anchor of the escapement, and the resulting buzzing noise, that is audible at the telephone-exchange, constitutes a signal that informs

the telephone-exchange that a proper coin or check has been employed in the operation of the machine and conveyed beyond control of the operator.

5 It will be observed that the coin or check during its dislodgment from the shoulders 43 of the hopper is firmly held by and between the gate *e* and the arm 81 of the lever *k*, because the springs *e'* and *k'* act to move the
10 said members *e* and 81 toward each other. The arrangement of parts is such that the gate *e* when the lever *k* has returned into its normal position and before the lever *f* has fully returned into its normal position shall have
15 its arm 52 engaged by the beveled end of the arm 60 of the said lever, so that the remaining movement of the said lever-arm 60 during the return movement of the lever *f* will result in the release of the coin or check held
20 between the gate *e* and the arm 81 of the lever *k* from the said gate *e* and the coin or check will drop upon the gate-forming rod or bar *h* below. The bar or rod *h* extends from within the outlet 41 of the hopper rearwardly
25 to and below the sweep of the lever *f* and has bearing in two boxes 70 and 70, arranged a suitable distance apart longitudinally of the said rod or bar and rigid with the stationary framework of the machine. A suitably-applied spring *h'* acts to retain the bar in its normal or operative position. The spring *h'* has
30 one end attached to any stationary object—such, for instance, as one of the bearing-affording boxes 70—and is attached at its other end to the bar *h*. The rear end of the bar *h*, as shown in Figs. I, III, and V, is provided with an upright forwardly-tiltable dog *o*, that is pivoted at its lower end, as at *o'*, to and horizontally and transversely of the bar. The
40 dog *o* is free to tilt in a forward direction and has its lower end provided with a depending lug *o'*, that is arranged to engage a rearwardly-facing shoulder *h'* formed upon the bar *h*, and thereby limit or prevent the dog from tilting in a rearward direction. The suitably-applied
45 spiral spring *o'* acts to retain the dog in its normal position, wherein the depending lug *o'* engages the aforesaid shoulder *h'*. The spring *o'* has one end thereof attached to the dog *o* and has its other end attached to the rear end of the bar *h*. The dog *o* projects upwardly into the path of a projection or pin 68, formed upon an arm 69, that is formed upon and depends from the lower end of the
55 lever *f*. The arrangement of parts is such that the arm 69 of the lever *f* during the return of the said lever into its normal position after having wound up the clockwork shall engage the forward side of the dog *o* and actuate the bar *h* rearwardly against the action of the spring *h'*, as required to withdraw the gate-forming portion of the bar *h* from the outlet 41 of the hopper, and consequently to permit the escape from the hopper *d* of any coin or check
60 that may have been in position upon the said gate-forming portion of the bar *h* into the

chamber or receptacle *r* formed below, and the member 68 of the arm 69 moves rearwardly beyond the dog *o* upon the rearward actuation of the said bar *h*. As the dog *o* is free to tilt forwardly, as already indicated, obviously the lever-arm 69 during the rearward tilting of the lever *f* will not effect any movement of the rod. A runway 75 extends from below the hopper's outlet 41 downwardly and rearwardly and is arranged, as required, to receive any coin or check dropping from the said outlet and conduct or guide it rearwardly, and thereby prevent the piling up of coins or checks below the hopper's outlet. Referring again to the operation of the bar 64 by the incline 15, I would remark that the arrangement of the parts is such that when the pin or lug 66 of the bar 64 has commenced to ride up the incline 15 during the rearward movement of the lever *f* the pawl 91 shall have commenced to ride over one of the teeth of the ratchet-wheel 92, as shown in Fig. IV, and before the pawl in riding over the said tooth in the direction of the outer extremity of the tooth has become disengaged from the said tooth the bar 64 shall have its depending lug 66 lifted from the slide *c* and the slide *c* shall have been actuated into its extreme inner position, so that the pawl will be rapidly returned to the inner end of the said tooth by the action of the clock-spring *f'* and cause the pin or lug 67 of the bar 64 to be thrown from the incline 15 forwardly onto the rearwardly and downwardly projecting rear end portion *s'* of a leaf-spring *s*, that extends forwardly and rearwardly over the path of the slide *c* forward of the incline 15 and has the arrangement required to cause the lug or pin 66 of the bar 64, and consequently the said bar, during the return of the lever *f* by the action of the spring *f'* into its normal position, to remain elevated above the slide *c* until the lever *f* has returned to its normal position and until the slide *c* has again been withdrawn into its extreme outer position, when the bar 64, whose lug or pin 67 has become disengaged from the forward end of the spring *s*, will descend and again have its depending lug 66 brought into engagement with the recess 33 in the aforesaid slide, and obviously the slide *c* must therefore be actuated into its outer or toll-receiving position before the lever *f* can again be operated thereby. The rear end of the spring *s* preferably depends somewhat into the path of the lug or pin 67 of the bar 64 during the rearward movement of the bar, and is consequently lifted by the said pin or lug, as required, to enable the latter to pass thereunder during the said rearward movement of the bar, and the low location of the rear end of the spring *s* positively prevents the lug or pin 67 from getting thereunder during the return or forward movement of the bar. The forward end of the spring *s* projects somewhat upwardly and forwardly

to avoid any possibility of the lug or pin 67 from getting upon the said spring during the rearward movement of the bar 64.

- The gate *e* is slotted laterally, as at 55, to
 5 accommodate the location and operation of the arm 81 of the lever *k* during the return of the said lever into its normal or forward position when there is no coin or check upon the shoulders 43 of the hopper, and thereby
 10 avoid the release of the clockwork when a proper coin or check has not been introduced into the machine. Obviously, therefore, the clockwork will not run down during the return or outward movement of the lever *k* unless a coin or check that is not arrestable by the permanent magnet and that is arrestable within the hopper *d* is fed into the machine. I would remark also that the rapidity of the return of the bar *h* into its normal position
 20 by the spring *h'* during the running down of the clockwork will cause the said bar to strike forcibly against the forward wall of the outlet of the hopper, and the resulting click will be audible at the telephone-exchange, and consequently serve as a signal supplementary to the operation of the clockwork, and consequently the operator at the telephone-exchange would, if he failed to hear the click to be occasioned by the striking of the bar *h*
 25 against the forward wall of the hopper's outlet, be justified in concluding that the person desiring to use the toll-collecting telephone had used another instrument to imitate the operation of the clockwork and thereby to deceive or impose upon the telephone-exchange.
 35 What I claim is—

1. A machine of the character indicated, comprising a clockwork that includes an escapement having its anchor provided with an
 40 arm or lever, means for winding up the clockwork, a movable part within the machine and arranged to be engaged by a coin or check of a predetermined size and provided with a member arranged to engage and detain the aforesaid anchor arm or lever, and means
 45 whereby the aforesaid coin-engageable part is actuated, through the medium of the coin or check, in the direction required to release the aforesaid anchor arm or lever, substantially as and for the purpose set forth.
 50

2. A machine of the character indicated, comprising a clockwork including an escapement that has its anchor provided with an arm or lever, mechanism for winding up the
 55 clockwork, a suitably-supported swinging part arranged to be engaged by a predetermined size of coin or check introduced into the machine, which swinging part is provided with an arm that has a member arranged to
 60 bear the free end of the anchor arm or lever during the winding up of the clockwork, and means for actuating the said swinging part, through the medium of the coin or check, in the direction required to cause it to release
 65 or recede from the aforesaid anchor arm or lever, substantially as and for the purpose set forth.

3. A machine of the character indicated, comprising a signal-constituting noise-producing instrument; a passage-way for conducting the coin or check, required in the operation of the machine, into the latter; means for arresting the coin or check within the machine; a movable part arranged to be engaged by the coin or check in the arrested position of the latter and provided with means for maintaining the signal inoperative, and means whereby the said coin-engageable part is, through the medium of the coin or check, actuated in the direction required to effect the operation of the signal.
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4. In a machine of the character indicated, the combination, with a clockwork comprising an escapement whose anchor is provided with an arm or lever, a hopper internally of the machine for receiving the coin or check required in the operation of the machine, means for feeding the coin or check to the hopper, and means for winding up the clockwork while the coin or check is fed to the hopper, and a shoulder or shoulders internally of the hopper for arresting the coin or check, of a movable part adapted to cooperate with the said shoulder or shoulders in the detention of the coin or check within the hopper and provided with a member that bears the free end of the aforesaid anchor arm or lever during the winding up of the clockwork, and means for dislodging the coin or check from the aforesaid shoulder or shoulders, and, through the medium of the coin or check, actuating the aforesaid movable detaining part in the direction required to release the aforesaid anchor arm or lever, substantially as and for the purpose set forth.
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5. A machine of the character indicated, comprising an internal hopper, a signaling device, a suitably-supported gate *e* arranged within the hopper and capable of swinging forwardly and rearwardly and instrumental in the operation of the signaling device, which gate is slotted laterally, as at 55, and is normally in its forwardly-swung position, means acting to actuate the gate rearwardly, mechanism for holding the gate in its forwardly-swung position, means for feeding the coin or check required in the operation of the machine to the hopper, a shoulder or shoulders 43 formed internally of the hopper, a suitably-operated forwardly and rearwardly tilttable lever *k* having an arm 81, all arranged and operating substantially as and for the purpose set forth.
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6. A machine of the character indicated, comprising an internal hopper arranged within the forward side of the machine and having its rear wall inclining forwardly and downwardly and provided with a slot 48, means for feeding the coin or check required in the operation of the machine to the hopper, coin-arresting means provided internally of the hopper, a forwardly and rearwardly swinging gate *e* within the hopper forward of the said coin-arresting means and having the lateral
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slot 55 and an arm 52, the suitably-operated lever *k* having the arm 81, and the suitably-operated lever *f* having the arm 60, all arranged and operating substantially as shown, for the purpose specified.

7. A machine of the character indicated, comprising an internal hopper having its forward side provided with a window, and having its rear wall inclining forwardly and downwardly and provided with a slot 48, a device for feeding the coin or check to the hopper, coin-arresting means internally of the hopper, the forwardly and rearwardly swinging gate *e* within the hopper forwardly of the coin-arresting means, which gate has an arm 52 and the lateral slot 55, means acting to swing the said gate rearwardly, the suitably-operated lever *f* having the arm 60, the lever *k* having the arm 81 and arranged to be actuated by the aforesaid feeding device in one direction, a spring for actuating the said lever in the opposite direction, and means for retarding the operation of the said spring, all arranged and operating substantially as shown, for the purpose specified.

8. A machine of the character indicated, comprising an internal hopper having its forward side provided with a window and having its rear wall inclining forwardly and downwardly and provided with a slot 48, a device for feeding the coin or check to the hopper, coin-arresting means formed internally of the hopper, the forwardly and rearwardly swinging gate *e* within the hopper forward of the said coin-arresting means, which gate has the arm 52 and the lateral slot 55, means acting to swing the said gate rearwardly, the suitably-operated lever *f* having the arm 60, the lever *k* having the arm 81 and arranged to be operated by the aforesaid feeding device in the one direction, a spring for operating the said lever *f* in the opposite direction, the piston *l*, and the rod *l'*, and the cylinder *l''* containing the piston and having the air-inlet *l'''*, all arranged and operating substantially as shown, for the purpose specified.

9. A machine of the character indicated, comprising the stationary framework provided with a front having a slot extending therethrough; a hopper at the inner side of the said front; a device for feeding a coin or check from the outer side of the front to the said hopper; a shoulder or shoulders formed internally of the hopper and having the arrangement required to arrest a coin or check of a predetermined size; a gate arranged to render it capable of obstructing the passage-way through the hopper and normally in its non-obstructing position; means acting to move the gate into its obstructing position; mechanism for actuating the said gate from its obstructing to its non-obstructing position, mechanism for dislodging the coin or check from the aforesaid shoulder or shoulders and instrumental in the withdrawal of the aforesaid gate from its obstructing position, means for operating the dislodging mechanism, a

signal, and means whereby the signal is rendered operative by the aforesaid dislodgment of a coin or check from the aforesaid shoulder or shoulders, substantially as and for the purpose set forth.

10. A machine of the character indicated, having an internal hopper for receiving the coin or check required in the operation of the machine, a device for feeding the said coin or check to the hopper, a rearwardly-tiltable lever arranged at the inner end of the path of the slide, a bar operatively connected with the lever and arranged to be operated by the coin-feeding device during the inward actuation of the latter, a clockwork comprising a clock-spring wound up during the rearward tilting of the said lever and adapted to return the said lever from its rearwardly-tilted to its normal position, and means for disengaging the aforesaid bar from the coin-feeding device and arranged to operate upon the said bar upon the winding up of the clock-spring as aforesaid.

11. A machine of the character indicated, having an internal hopper for receiving the coin or check required in the operation of the machine, a slide for feeding the coin or check to the hopper, a forwardly and rearwardly tiltable lever arranged at the inner end of the path of the slide, a bar operatively connected with the lever and arranged to be operated by the slide during the inward actuation of the latter, a clockwork comprising a clock-spring acting to retain the said lever in its forwardly-tilted and normal position, and means for disengaging the aforesaid bar from the slide, all arranged and operating substantially as and for the purpose set forth.

12. A machine of the character indicated, comprising an internal hopper arranged within the forward side of the machine, and having its rear wall inclining forwardly and downwardly and provided with a slot 48, means for feeding the coin or check to the hopper, two shoulders 43 and 43 formed internally of the hopper upon opposite side walls, respectively, of the hopper, a signal-constituting noise-producing instrument, a movable part arranged to be engaged by the coin or check when the latter has been arrested within the hopper by the aforesaid shoulders and provided with means for maintaining the signal inoperative, and means whereby the said coin-engageable part is, through the medium of the coin or check, actuated in the direction required to permit the operation of the signal.

13. A machine of the character indicated having a slide for feeding the coin or check into the machine, the forwardly and rearwardly tiltable lever *f*, the bar 64 having the depending lug 66 and the laterally-projecting pin or member 67, a clockwork comprising a clock-spring *f'*, the stationary incline 15 and the spring *s*, all arranged and operating substantially as shown, for the purpose specified.

14. A machine of the character indicated, having a slide for feeding the coin or check

into the machine, a forwardly and rearwardly tiltable lever arranged at the inner end of the path of the said slide, a bar 64 operatively connected with and extending forwardly from the said lever and having its forward end provided with a depending lug or member 66 having the arrangement required to render it capable of being engaged and actuated rearwardly by the slide when the slide is in its forward position, a clockwork comprising a clock-spring that is operatively connected with and wound up by the aforesaid lever when the lever is tilted rearwardly, and means for disengaging the aforesaid bar from the slide when the aforesaid spring has been wound up as aforesaid, substantially as and for the purpose set forth.

15. A machine of the character indicated; having an internal hopper for receiving the coin or check required in the operation of the machine, which hopper has its lower end provided with an outlet, a gate-forming endwise-shiftable rod or bar arranged to normally obstruct the lower end of the passage-way through the said outlet, a forwardly-tiltable dog supported from the said bar or rod, a stop upon the bar for preventing tilting of the said dog rearwardly of its normal position, means acting to retain the aforesaid rod or bar in its forward or normal position, a slide for feeding the coin or check to the hopper, a bar 64 arranged to be operated by the slide, means for disengaging the said bar from the slide, and the lever *f* operatively connected with the said bar and having an arm 69 provided with a laterally-projecting pin or member 68 arranged as required to render it capable of engaging the forward side of the aforesaid dog during the feeding operation of the aforesaid slide and thereupon resulting in the actuation of the aforesaid rod or bar into its non-obstructing position.

16. A machine of the character indicated, having an internal hopper for receiving the coin or check required in the operation of the machine, which hopper has its lower end provided with an outlet, a plate of glass forming a window at the forward side of the

hopper, a gate-forming endwise-shiftable rod or bar arranged to normally obstruct the lower end of the passage-way through the said outlet, a forwardly-tiltable dog supported from the said bar or rod, a stop upon the bar for preventing tilting of the said dog rearwardly of its normal position, means acting to retain the aforesaid rod or bar in its forward or normal position, a device for feeding the coin or check to the hopper, and mechanism arranged to be actuated by the said feeding device during the latter's operation and provided with means for engaging the forward side of the aforesaid dog during the feeding operation of the aforesaid feeding device and thereupon actuating the rod or bar into its non-obstructing position, and the arrangement of parts being such that the said bar or rod shall have its forward end engaging the inner side of the aforesaid window in the normal and obstructing position of the said rod or bar so that the latter, upon its release after each rearward actuation thereof, shall return and strike against the aforesaid window, substantially as and for the purpose set forth.

17. A machine of the character indicated having an internal hopper for receiving the coin or check required in the operation of the machine, which hopper has its lower end provided with an outlet, the gate-forming endwise-shiftable rod or bar *h* having the shoulder *h*³, the spring *h*¹, the dog *o* having the lug *o*², the spring *o*¹, a slide for feeding the coin or check to the hopper, the bar 64 arranged to be operated by the said slide, the means for operatively disengaging the said bar from the slide, and the lever *f* having the arm 69 provided with the laterally-projecting pin or member 68, all arranged and operating substantially as shown, for the purpose specified.

Signed by me at Cleveland, Ohio, this 15th day of February, 1900.

WILLIAM A. FOSS.

Witnesses:

C. H. DORER,

A. H. PARRATT.