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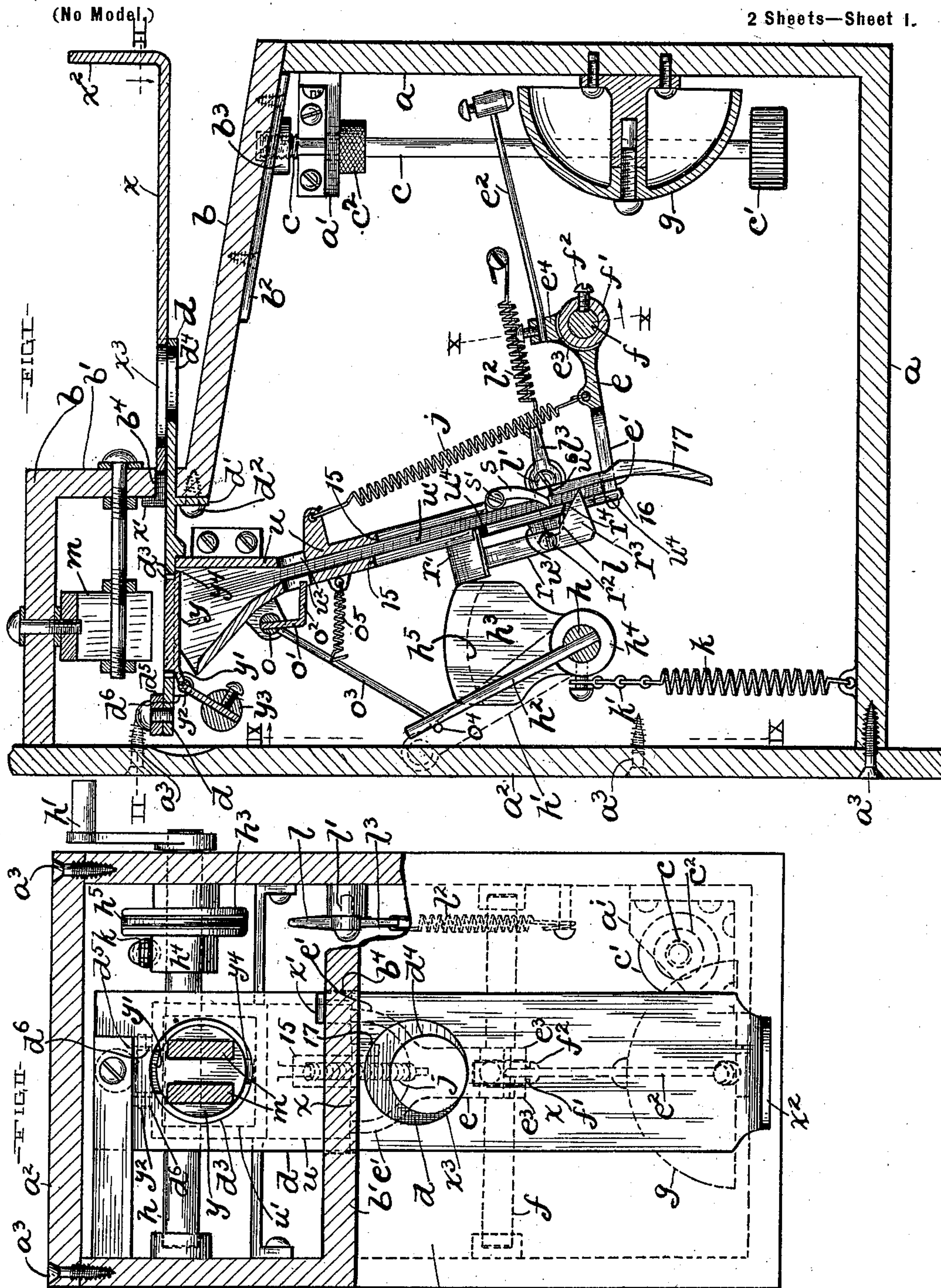
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W. A. FOSS,

TOLL COLLECTING MACHINE FOR TELEPHONES.

(Application filed Mar. 25, 1901.)

2 Sheets—Sheet 1.



WITNESSES:

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TOLL-COLLECTING MACHINE FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 687,008, dated November 19, 1901.

Application filed March 25, 1901. Serial No. 52,794. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. FOSS, a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and
5 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
10 pertains to make and use the same.

My invention relates to improvements in toll-collecting machines for telephones.

One object of the invention is to provide improved means for preventing obstruction
15 of or interference with a proper operation of the machine by introducing a plurality of coins or checks in rapid succession into the machine.

Another object of the invention is to provide, in addition to a downwardly-extending toll-conducting channel and mechanism for
20 arresting and arranged to be operated by a proper toll-representing coin or check at the discharging end of the said channel and instrumental in the production of a signal,
25 means for preventing the return of the coin or check arrested by the said mechanism and improved means for removing from the channel another coin or check introduced
30 into the channel before the first-mentioned coin or check, arrested as aforesaid, has performed its operation.

Another object of the invention is to provide improved means whereby any operation
35 of the toll-arresting mechanism instrumental in the production of the signal, as aforesaid, having been commenced must be completed before another operation of the machine can take place.

40 With these objects in view and to the end of realizing other advantages hereinafter appearing the invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out
45 in the claims.

In the accompanying drawings, Figure I is a side elevation, mostly in central vertical section, of a toll-collecting machine embodying my invention. Fig. II is a top plan in
50 section on line II II, Fig. I, and portions are broken away in this figure to more clearly

show the construction. Fig. III is a side elevation, in central vertical section, of the upper portion of the machine and illustrates the toll-feeding slide in its inwardly-actuated
55 position and shows a toll-representing coin or check having entered the toll-conducting channel of the machine. Fig. IV is a side elevation, partly in section, of the lower portion of the toll-conducting channel and shows
60 the coin or check conducted by the said channel in engagement with the lower arm of a vertically-tilting guide for arresting the descent of another coin or check introduced into the said channel before the first-men-
65 tioned coin or check has been discharged from the channel. Fig. V is a side elevation, largely in central vertical section, illustrating the coin-conducting channel, a coin or check arrested at the lower end of the said
70 channel by mechanism instrumental in the production of a signal, and illustrating also the operation of other parts of the machine. Fig. VI is a side elevation, partly in section, illustrating the lower portion of the coin-con-
75 ducting channel and adjacent mechanism and shows the coin or check arrested at the lower end of the said channel operating the mechanism instrumental in the production of a signal. Fig. VII is a side elevation, partly
80 in section, illustrating the operation of the mechanism employed in preventing a backward oscillation of the operating-shaft of the machine during the operation of the machine. Fig. VIII is a section on line VIII VIII, Fig. 85
VII, looking in the direction indicated by the arrow. Fig. IX is a rear side elevation, in vertical section, on line IX IX, Fig. I, and portions are broken away in this figure to more clearly show the construction. Fig. X
90 is a section in detail on line X X, Fig. I, looking in the direction indicated by the arrow.

Referring to the drawings, *a* designates the inclosing case of my improved machine, and
b represents the top of the said case, which
95 top has its rear portion raised or elevated above its forward portion, so as to form an upright wall *b'* between the upper and lower portions of the top, as shown in Figs. I and III. The top *b* rests upon the correspondingly-
100 shaped upper ends of the right-hand and left-hand side walls of the case *a* and upon the

forward wall of the said case and is held downwardly upon the said walls by mechanism within the case *a* and comprising a vertically-arranged screw *c* within the forward portion 5 of the case *a* and provided at its lower end with a handle *c'* for turning the same. The screw *c* extends through and has lateral bearing in an arm or bracket *a'*, secured to the case *a*. The screw *c* has its upper end engaging a nut *b³*, formed upon a plate *b²*, which is secured to the under side of the top *b*. The screw *c* is provided with an external annular shoulder or collar *c²*, engaging the under side of the arm or bracket *a'*. Obviously by this 15 construction the turning of the screw in the one direction and to the extent required will result in disengaging the screw from the engaging nut and render the top *b* free to be removed, and by turning the screw in the opposite direction the said top is drawn tightly 20 upon the engaging walls of the case *a*.

The rear wall of the case *a* is formed, preferably, by the backboard *a²* of the telephone 25 machine, and the right-hand and left-hand side walls and the bottom of the case are secured, preferably, by means of screws *a³* to the said backboard. The chamber of the case is enlarged upwardly, therefore, behind the wall 30 *b'*, which is provided at or near its lower end with a horizontally-arranged slot *b⁴*, which extends through the said wall. A horizontally-arranged table *d* rests upon the lower wall of the slot *b⁴* and extends from the said wall into 35 the case and outside of the case a suitable distance. A horizontally-arranged toll-feeding slide *x* rests upon the table *d* and is slidable through the slot *b⁴* endwise of the table. The slot *b⁴* is therefore large enough vertically 40 to accommodate the location and operation of the slide *x*. The slide *x* in its normal or outer position has the stop-forming lug *x'*, which is formed upon the inner end of the slide, engaging the inner side of the upright 45 wall *b'* of the top *b*, as shown in Figs. I and III. The slide *x* is provided at its outer end with a handle *x²* for convenience in manipulating the slide. The slide *x* a suitable distance from its inner extremity is provided with an aperture 50 *x³* for receiving the toll-representing coin or check employed in operating the machine. The table *d* is provided at the inner side of the upright wall *b'* of the top *b* with a depending lug *d'* and is secured to the top *b*, preferably 55 removably, by means of a screw *d²*, extending into the top through the lug *d'*, as shown in Figs. I and III. The table *d* is provided outside of the case *a* with an aperture *d⁴*, extending vertically therethrough and smaller in dimensions than the toll-receiving aperture *x³* 60 formed in the slide *x*, and the arrangement of parts is such that the aperture *x³* of the slide *x* shall in the outer position of the slide have its forward portion in registry with the 65 aperture *d⁴* of the slide, so that the toll-representing coin or check placed upon the table within the aperture *x³* of the slide *x* in the

said position of the slide will rest upon the table around the rear portion of the table's aperture *d⁴*, which will afford the desired access 70 to the aperture *x³* of the slide from below for the purpose of lifting or removing from the said aperture a coin or check which has been inadvertently placed therein or 75 which it is desired to remove or avoid introducing into the machine.

The table *d* inside of the case *a* is provided with a toll-discharging aperture *d³*, extending vertically through the table. Rearward of the aperture *d³* the table *d* is provided upon 80 its upper side with a forwardly-facing shoulder *d⁵*, arranged to be engaged by the inner extremity of the slide *x* in the inwardly-actuated position of the said slide, as shown in Fig. III, and the arrangement of parts is such 85 that the aperture *x³* of the slide shall be in registry with the coin-discharging aperture *d³* of the table in the inner position of the slide, as shown in the said figure.

A magnet *m*, preferably a permanent magnet, 90 is arranged within and supported from the case between the wall *b'* of the top *b* and the back of the case above the coin-discharging aperture *d³* of the table and in such close proximity to the path of the slide *x* that the 95 space between the said path and the magnet shall not be large enough vertically to accommodate the lifting by the magnet of a magnetic slug or counterfeit entirely out of the said aperture, so that the next outward move- 100 ment of the slide shall result in the withdrawal of the slug or counterfeit.

The peculiar configuration and construction of the case, including its top *b*, as hereinbefore described, accommodates the location 105 and operation of the magnet *m* and slide *x* without materially enlarging the case and without an objectionable projection of the slide beyond the forward wall of the case in the outer position of the slide. 110

A horizontally-arranged vertically-tiltable shelf or seat *y* normally engages the aperture 115 *d³* of the table *d* and is arranged to receive the coin or check conducted into the machine and below the magnet by the slide *x*. The shelf or seat *y* is capable of being tilted downwardly into the gradually upwardly enlarged end of a chute *u*, supported within and from the case *a* and extending downwardly and forwardly from the shelf or seat *y*. The chute 120 has its upper and toll-receiving end arranged, therefore, in registry with and below the coin-discharging aperture *d³* of the table *d*, as shown in Figs. I and III. The shelf or seat *y* in its upwardly-tilted and normal position 125 has its upper surface flush with the upper surface of the table *d*, so that a magnetic slug attracted by the magnet shall not be prevented from being withdrawable by the slide *x*. The seat *y* is provided at the rear with a 130 downwardly and rearwardly projecting arm *y'*, pivoted, as at *y²*, horizontally and at right angles to the path of the slide *x*, to a lug or lugs *d⁶*, depending from and formed upon the

table d , as shown in Figs. I and II. The seat y is provided also with a poise y^3 , which more than counterbalances the seat y and acts to retain the seat in its normal position, wherein a lug y^4 , formed upon the seat and projecting forwardly from the seat and in under the table, coöperates with the table in forming a stop for limiting the return movement of the seat by the poise y^3 when the seat has been tilted downwardly by a proper toll-representing coin or check conducted thereon by the slide x . In the operation of the machine the seat y will be tilted downwardly only by a non-magnetic coin or check having the required predetermined weight. A magnetic coin or check will be attracted, as already indicated, by the magnet. A coin or check lighter than required to tilt the seat y will remain upon the said seat and be withdrawn by the slide x . The seat y will also assist the magnet in preventing the descent into the chute u of a magnetic slug a trifle too heavy for the lifting capacity of the magnet. Fig. III shows a proper toll-representing coin or check t , having tilted the seat y against the action of the poise y^3 and passing adown the chute u .

The channel or passage-way u' , formed by and extending through the chute u , registers, as already indicated, with the toll-discharging aperture d^3 of the table d and has the dimensions required to render it capable of receiving the toll-representing coin or check from the said aperture and conducting the toll to and upon the two arms e' and e'' of a forked lever e , which has its arms extending below the said channel or passage-way and arranged such a distance apart as required to render the said arms capable of arresting a proper toll-representing coin or check conducted by the chute and prevent the said coin or check dropping directly from the chute into the lower portion or toll-collecting chamber of the case a , but permit a smaller coin or check to pass downwardly between them into the said chamber. The fork of the lever e normally has such position relative to the lower end of the chute that a coin or check lodging upon the lever shall not be out of the chute, as shown very clearly in Figs. V and IX, wherein t represents a coin or check arrested by the said lever.

The lever e is loosely mounted or fulcrumed at the forward end of the shank-forming portion of the lever's fork a suitable distance forward of the lower end of the chute u upon a rod f , which is circular in cross-section and arranged horizontally and extends between and is supported from the left-hand and right-hand side walls of the cases a . The lever e in its normal position extends approximately horizontally rearwardly from the said rod. The lever e at its fulcrum is provided with a forwardly-extending spring-hammer e^2 , which has the arrangement required to render it capable of striking and thereby sounding a gong g , secured in any approved manner to

the forward wall of the case a . A suitably-applied coil-spring j , arranged forward of the chute u and having opposite ends thereof attached to the chute and to the lever e , respectively, acts to retain the said lever and the attached gong-sounding hammer in their normal position.

A simple and meritorious construction of the lever e comprises two registering ears e^3 and e^3 , formed upon the forward end of the lever e and loosely or turnably embracing the rod f , (see Figs. I, II, and X,) and arranged the distance apart required to accommodate a snug interposition between them of a collar f' , which also embraces the rod and is secured to the rod by a set-screw f^2 . The collar f' is placed in position between the ears e^3 and e^3 of the lever e and slipped with the said ears onto the rod before the rod is placed in position within the case a . The said ears and collar prevent displacement of the lever e endwise of the rod f . A yoke e^4 connects together and is formed integral with the two ears e^3 and e^3 , and the hammer e^2 is secured to the said yoke.

An oscillating shaft h is arranged horizontally between and supported from the right-hand and left-hand side walls of the case a , preferably about centrally between the lower portion of the chute u and the rear wall a^2 of the case a . The shaft h extends through the right-hand side wall of the case a and at the outer side of the said wall is provided with a crank h' for operating the same. The shaft h next rearward of the chute u is provided with an upright arm h^2 , which in the normal position of the shaft inclines rearwardly. A suitably-applied spring k , (see Figs. I, V, and IX,) preferably a coil-spring, acts to retain the shaft h in its normal position. The spring k is arranged uprightly below the shaft, has its lower end attached to the case a , and has its upper end attached to one end of a chain k' , whose opposite end is attached to a collar h^4 , fixed upon the shaft, which chain leads from the spring to and over the rear side of the said collar and winds upon the collar, so as to place the spring under tension upon turning the shaft to the left or forwardly. The shaft h is free to be oscillated forwardly, and the arrangement of parts and the length of the shaft-arm h^2 are such that when a proper toll-representing coin or check has been conducted to and arrested by the toll-arresting arms or members of the lever e , as shown in Figs. V and IX, a forward oscillation of the shaft h against the action of the spring k will cause the arm h^2 of the said shaft to descend upon and engage the upper edge of the said coin or check, and thereupon upon a continuation of the shaft's oscillation in the same direction result in the depression of the said coin or check, and consequently in a downward tilting of the toll-bearing lever e , as shown in Fig. VI, until the said lever has been tilted downwardly far enough to permit the toll to pass rearwardly off the lever below the

chute and the shaft-arm h^2 is long enough to render it capable of extending through the chute during the toll-depressing and toll-ejecting operation of the said arm and enable the said arm to crowd the said coin or check rearwardly off the toll-bearing lever e . As soon as the toll arrested by the lever e has alighted from the lever, as hereinbefore described, the spring j promptly returns the lever into its normal position and the spring k insures a prompt return of the shaft h into its normal position upon the operator's release of the said shaft after having operated it as required to operate the signal through the medium of the toll-representing coin or check. Obviously the gong-sounding hammer e^2 is during the toll-ejecting operation of the shaft-arm h^2 elevated or removed farther from the gong or sound-yielding body, and upon the release of the said lever the action of the spring j results in forcibly throwing the aforesaid hammer against the said sound-yielding body and thereby signaling or notifying the telephone-exchange or central station that the proper toll has been introduced into the machine beyond the control of the person desiring to use the telephone provided with the said machine.

The forward and rear side walls of the chute u are slotted, as at 15, (see Figs. I, II, V, and IX,) from the lower edges of the walls upwardly to accommodate the location and operation of the shaft-arm h^2 . Preferably the rear slotted wall of the chute u is provided at the chute's lower end with two depending lugs 16 and 16. The lugs 16 and 16 are arranged at opposite sides, respectively, of but in close proximity to the sweep of the shaft-arm h^2 and between the arms e' and e' of the lever e .

The forward wall of the chute u is provided at its lower end and at one side of the sweep of the shaft-arm h^2 with a depending guide-forming arm 17, that extends in under the lower and discharging end of the chute u and is arranged to guide the coin or check discharged from the chute away from the chute, so that there is no liability of the coin or check during or after its discharge from interfering with the adjacent mechanism.

A sector-wheel h^3 is operatively mounted upon the shaft h and preferably integral with the collar h^4 . In the normal position of the parts the sector-wheel h^3 projects upwardly from the shaft, as shown in Figs. I, II, and IX. The sector-wheel has its periphery provided with an open-ended groove or recess h^5 , extending circumferentially of the wheel and arranged concentrically of the wheel's axis. The side walls of the groove or recess h^5 diverge outwardly, as shown in Fig. VIII—that is, the said groove or recess is gradually enlarged in width outwardly.

A vertically-tiltable wedge l , that extends forwardly and rearwardly of the machine, is arranged approximately horizontally forwardly of the sector-wheel bearing portion of

the shaft h . The wedge l is pivoted, as at l' , parallel with the shaft h to the right-hand side wall of the case α . A coil-spring l^2 is arranged forwardly of the wedge and has opposite ends attached to an arm l^3 of the wedge and to the case α , respectively. The spring l^2 acts to retain the wedge in its normal position, wherein the wedge is arranged radial or approximately radial to the shaft. The arrangement of parts is such that during the forward oscillation of the sector-wheel h^3 the grooved or recessed periphery of the sector has its groove or recess h^5 come into engagement with the wedge, and thereupon tilts the wedge downwardly against the action of the spring l^2 , as shown in Figs. V, VII, and VIII, and the shaft cannot be returned into its normal position until the sector-wheel has been oscillated far enough to become disengaged from the wedge after the toll introduced into the machine and employed in the operation of the gong-striking mechanism has fallen into the toll-collecting lower portion of the case α from the said mechanism. Obviously, also, during the rearward oscillation or return of the sector-wheel into its normal position the sector-wheel will again be engaged by the wedge, and thereupon tilts the wedge upwardly against the action of the spring l^2 , so that the shaft cannot be returned into its normal position until the sector-wheel has been oscillated far enough to become disengaged from the wedge. This mechanism, that comprises the sector-wheel h^3 and the wedge l , is largely instrumental in preventing tampering with the machine and obviously is noiseless in its operation.

Mechanism for obstructing the channel or passage-way u' of the chute u a suitable distance above the discharging end of the chute, and preferably near the chute's upper end or a short distance below the sweep of the seat y , is provided and comprises, preferably, a horizontally-arranged oscillating shaft o , supported rearward of and from the upper portion of the rear side of the chute and extending transversely of the said side of the shaft. The shaft o is arranged, therefore, a suitable distance above the shaft h , preferably parallel with the said shaft h , as shown in Figs. I, III, V, and IX. The shaft o is provided centrally with a depending arm o' , having a forwardly-projecting member o^2 , arranged to enter the chute u and obstruct the channel or passage-way u' of the chute, as shown in Fig. V, when the shaft o is oscillated rearwardly. The shaft o is provided with another depending arm o^3 , which in the normal position of the parts extends downwardly and rearwardly from the shaft and has a member o^4 projecting rearwardly of and engaged by the arm h^2 of the shaft h in the normal position of the said shaft-arm h^2 . A spiral spring o^5 , having opposite ends attached to the arm o^5 and to the chute u , respectively, is normally under tension and acts to pull the said arm o^3 forwardly, and thereby oscillate the shaft o

in the direction required to render the member o^2 of the arm o' operative by causing the said member o^2 to enter and thereby obstruct the channel or passage-way u' of the chute u , which has its forward and rear walls slotted, as at u^3 , to accommodate the operation of the said member o^2 . Normally, as already indicated, the member o^2 is out of the channel or passage-way u' of the chute, and consequently inoperative, as shown in Fig. I, and the mechanism comprising the said member o^2 is held inoperative against the action of the spring o^5 by the arm h^2 of the shaft h . The spring o^5 is of course less powerful than the spring k . By the simple and meritorious construction hereinbefore described obviously any coin or check introduced into the machine after the member o^2 has been rendered operative preparatory to the operation of the toll-operated signal-producing mechanism is arrested by the said member o^2 until the operation of the last-mentioned mechanism has been completed and the said member o^2 again been rendered inoperative.

My improved machine comprises also mechanism or means for diverting from the channel or passage-way u' of the chute u a coin or check which has entered the chute and passed below the sweep of the arm o^2 of the aforesaid chute-obstructing mechanism before the coin or check next previously introduced into the said channel or passage-way and resting upon the lever e has been discharged from the chute, and the said diverting mechanism comprises, preferably, an inclined apron r' , formed upon the upper end of a forwardly and rearwardly tiltable bar r , which is pivoted, as at r^2 , horizontally and parallel with the shaft h to a lug or bracket u^3 , formed upon the rear side of the chute, as shown in Figs. I, IV, V, VI, and IX. The bar r is provided below its axis with a member r^3 , projecting normally into the channel or passage-way u' of the chute u , as shown in Figs. I and IV, and having its upper surface beveled or sloping downwardly, as at r^4 , toward its free extremity, so that a coin or check in being conducted by the chute to the lever e shall come into engagement with the sloping surface r^4 of the bar r , as shown in Fig. IV, and tilt the bar r against the action of gravity in the direction required to move the apron r' of the bar into its operative position, as shown in Fig. V, wherein the said apron obstructs the channel or passage-way u' of the chute u . The chute is of course suitably slotted, as at u^4 , to accommodate the location and operation of the bar r and its members r' and r^3 , and the said apron in the machine illustrated has its upper surface sloping downwardly toward the left-hand side of the chute and in the direction of an aperture u^5 , (see Fig. IX,) formed in the left-hand side wall of the chute opposite the apron and arranged to receive a coin or check diverted by the apron r' and discharge the said coin or check laterally from the chute. It

will be observed, therefore, that a coin or check resting upon the lever e has actuated the apron r' into its operative position, and the bar r has such arrangement relative to the lever e that the said coin or check shall engage the member r^3 of the bar and retain the apron in its operative position until the said coin or check has been almost discharged from the chute u . As already indicated, the bar r is retained by gravity in its normal position, wherein the apron r' is outside of the passage-way u' of the chute, and consequently inoperative, and wherein the member r^3 of the said bar projects into the said chute and engages in the machine illustrated the chute's forward side wall, which forms a stop to limit the movement of the bar r during its return from its operative to its normal and inoperative position. In Fig. V a coin or check t rests upon the lever e and holds the bar r in its operative position. In Fig. VI the said coin or check has almost been discharged from the chute and has released the bar r , which has returned into its normal and inoperative position.

Means for preventing upward displacement of a coin or check lodged upon the lever e is also provided and comprises, preferably, a forward and rearward arm s , tiltable in a vertical plane and pivoted at its upper end, as at s' , to the chute u outside of the channel or passage-way u' of the chute. The arm s normally projects into and obstructs the said passage-way. The chute is slotted, as at u^6 , to accommodate the location and operation of the arm s and to render the arm capable of being swung outwardly outside of the channel or passage-way of the chute. The arm s is arranged between the upper and lower ends of the bar r and is engaged and swung outwardly by a coin or check passing down the chute to the lever e . The arm s is retained in its normal position by gravity and has such arrangement relative to the lever e that the coin or check, having tilted or swung the said arm outwardly, shall when arrested by the lever have disengaged the said arm, and thereby rendered the latter again free to return into its normal position and overhang the coin or check resting upon the lever, as shown in Fig. V, and effectually prevent displacement of the said coin or check upwardly from the lever.

That portion of the matter disclosed in this application and constituting a fraud-preventing device, comprising the magnet m and the tiltable shelf or seat y , forms the subject-matter of another application about to be filed in the United States Patent Office.

What I claim is—

1. In a toll-conducting machine of the character indicated, a gong or sound-yielding body, a tiltable lever capable of normally arresting a proper coin or check introduced into the machine and provided with a hammer arranged to strike the sound-yielding body, a rod bearing the said lever and circular in

cross-section, means acting to retain the lever in its normal position, a suitably-operated oscillating arm having a sweep extending into the path of the coin or check, a chute
 5 for conducting the coin or check to the lever and slotted to accommodate the operation of the aforesaid arm, and means for preventing displacement of the lever endwise of the
 10 aforesaid rod and comprising a collar mounted upon and secured to the rod and two ears loosely embracing the rod at opposite ends, respectively, of the collar and formed upon the lever.

2. In a toll-conducting machine of the character indicated, a tiltable lever capable of normally arresting a proper coin or check introduced into the machine, a rod bearing the said lever and circular in cross-section, means acting to retain the lever in its normal position, a suitably-operated oscillating arm having a sweep extending into the path of the coin or check, a chute for conducting the coin or check to the lever, means for preventing displacement of the lever endwise of the rod
 25 and comprising a collar mounted upon and secured to the rod and two ears formed upon the lever and loosely embracing the rod at opposite ends, respectively, of the collar, a yoke connecting the said ears together, a
 30 gong or sound-yielding body, and a hammer secured to the aforesaid yoke and arranged to strike the sound-yielding body, all relatively arranged and operating substantially as shown, for the purpose specified.

3. In a toll-conducting machine of the character indicated, a gong or sound-yielding body, a tiltable lever capable of normally arresting a proper coin or check introduced into the machine and provided with a hammer arranged to strike the sound-yielding body, means acting to retain the lever in its normal position, a suitably-operated oscillating arm having a sweep extending into the path of the coin or check, the chute for conducting the
 40 coin or check to the lever and having its forward and rear walls slotted to accommodate the operation of the oscillating arm, and an arm formed upon and depending from the lower end of the forward wall of the chute
 45 and extending in under the discharging end of the channel or passage-way formed by the chute and arranged to be engaged by and guide the coin or check during the operation of the aforesaid lever through the medium of
 50 the coin or check.

4. In a toll-collecting machine of the character indicated, a toll-conducting chute, a gong or sound-yielding body, a tiltable forked lever having the shank-forming portion of its fork provided with a hammer which is arranged as required to render it capable of striking the sound-yielding body, which lever has the arms of its fork arranged such a distance apart at and in such position relative to the chute's lower and discharging end as will
 60 render them capable of normally arresting a proper toll-representing coin or check con-

ducted downwardly by the chute, means acting to retain the lever in its normal position, a suitably-operated oscillating arm having a sweep extending through the chute and between the arms of the lever's fork, registering slots in the forward and rear walls of the chute to accommodate the location and operation of the oscillating arm, and an arm depending from and rigid with the lower end of the forward wall of the chute and extending downwardly between the arms of the fork of the lever in under the lower and discharging end of the channel or passage-way formed by
 70 the chute.

5. A toll-collecting machine of the character indicated, comprising a chute or upright passage-way for conducting the toll-representing coin or check, mechanism arranged to be operated by the coin or check at the discharging end of the said passage-way, a suitably-supported oscillating shaft provided with an arm arranged as required to render it capable of operating the aforesaid mechanism through
 85 the medium of the coin or check, a sector-wheel operatively mounted upon the shaft and having its periphery provided with an open-ended groove or recess extending circumferentially of the wheel, and a suitably-supported tiltable wedge normally arranged radially or approximately radially to the sweep of the sector-wheel, and means acting to retain the said wedge in its normal position.

6. A toll-collecting machine of the character indicated, comprising a chute or upright passage-way for conducting the toll-representing coin or check, mechanism arranged to be operated by the coin or check at the discharging end of the said passage-way, an oscillating shaft having an arm arranged as required to render it capable of operating the aforesaid mechanism through the medium of the coin or check, a sector-wheel operatively mounted upon the shaft and having its periphery provided with an open-ended groove or recess having its side walls diverging outwardly, and a suitably-supported tiltable wedge arranged radially or approximately radially to the sweep of the sector-wheel, and
 100 means acting to retain the said wedge in its operative position.

7. A toll-collecting machine of the character indicated, comprising a chute or upright passage-way for conducting the toll-representing coin or check, mechanism arranged to be operated by the coin or check at the discharging end of the said passage-way, a suitably-supported oscillating shaft having an arm arranged as required to render it capable of operating the aforesaid mechanism through the medium of the coin or check, and mechanism arranged to enter and obstruct the said passage-way a suitable distance above the discharging end of the passage-way and normally inoperative and arranged to be retained inoperative by the aforesaid shaft-arm, means acting to render the said obstructing mechanism operative, and the ar-
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5 rangement of parts being such that the said obstructing mechanism shall be rendered operative during the oscillation of the aforesaid shaft-arm in the direction required to effect the operation of the toll-operated mechanism.

10 8. A toll-collecting machine of the character indicated, comprising a chute for conducting the toll-representing coin or check, mechanism arranged to be operated by the toll at the lower and discharging end of the chute, an oscillating shaft having an arm arranged as required to render it capable of operating the aforesaid mechanism through the medium of the toll, another oscillating shaft having an arm arranged to enter and obstruct the channel or passage-way formed by the chute a suitable distance above the chute's discharging end and normally inoperative, which last-mentioned shaft has another arm normally arranged to be engaged and detained by the arm of the first-mentioned shaft, means acting to oscillate the said last-mentioned shaft in the direction required to render the chute-obstructing arm operative, and the arrangement of parts being such that the chute-obstructing mechanism shall be rendered operative during the oscillation of the first-mentioned shaft in the direction required to effect the operation of the toll-operated mechanism.

30 9. A toll-collecting machine of the character indicated, comprising a chute or upright passage-way for conducting the toll-representing coin or check; mechanism arranged at the lower and discharging end of the said passage-way in the position required to render it capable of being operated by the toll conducted by the chute; an upright bar tiltable in a vertical plane; which bar is provided, below its axis, with a member normally projecting into the aforesaid passage-way and has its upper end provided with an inclined apron arranged to enter the said passage-way, and a discharging-aperture formed in the wall of the said passage-way opposite the said apron, substantially as and for the purpose set forth.

45 10. A toll-collecting machine of the character indicated, comprising a chute for conducting the toll-representing coin or check; mechanism arranged to arrest the coin or check at the lower end of the chute and capable of being operated through the medium of the coin or check; an upright tiltable bar provided, below its axis, with a member normally projecting into the channel or passage-way formed by the chute, which bar has its upper end provided with an inclined apron arranged to enter and thereby obstruct the said chan-

nel or passage-way, a discharge-aperture formed in the chute opposite the apron and arranged to receive a coin or check diverted by the apron, and the apron-bearing bar having such arrangement relative to the aforesaid toll-arresting mechanism that the toll, in its passage to the said toll-arresting mechanism, shall not only tilt the apron-bearing bar in the direction required to render the apron operative but shall engage and hold the bar in its operative position after its arrest by the aforesaid toll-arresting mechanism.

70 11. A toll-collecting machine of the character indicated, comprising a chute for conducting the toll-representing coin or check; mechanism arranged to arrest the coin or check at the lower and discharging end of the chute and capable of being operated through the medium of the coin or check; an upright tiltable bar r provided, at its upper end above its axis, with the inclined apron r' and provided, below its axis, with a member r^3 normally projecting into the channel or passage-way formed by the chute and having the sloping surface r^4 , and the discharge-aperture u^5 formed in the chute and arranged to receive the coin or check diverted from the aforesaid passage-way by the aforesaid apron, all relatively arranged and operating, substantially as shown, and for the purpose specified.

90 12. A toll-collecting machine of the character indicated, comprising a chute conducting a toll-representing coin or check, mechanism arranged at the lower and discharging end of the chute in the position required to render it capable of being operated by the toll conducted by the chute, a suitably-supported oscillating shaft having an arm arranged to render it capable of operating the aforesaid mechanism through the medium of the toll, and an arm s pivotally supported at its upper end from the chute and tiltable in a vertical plane, which arm normally depends into the channel or passage-way of the chute and has such arrangement relative to the aforesaid toll-operated mechanism that it shall be swung outwardly by the toll during the descent of the toll to the said mechanism, but shall be disengaged by the toll when the latter comes into engagement with the said mechanism.

110 Signed by me at Cleveland, Ohio, February 16, 1901.

WILLIAM A. FOSS.

Witnesses:

C. H. DORER,
A. H. PARRATT.