

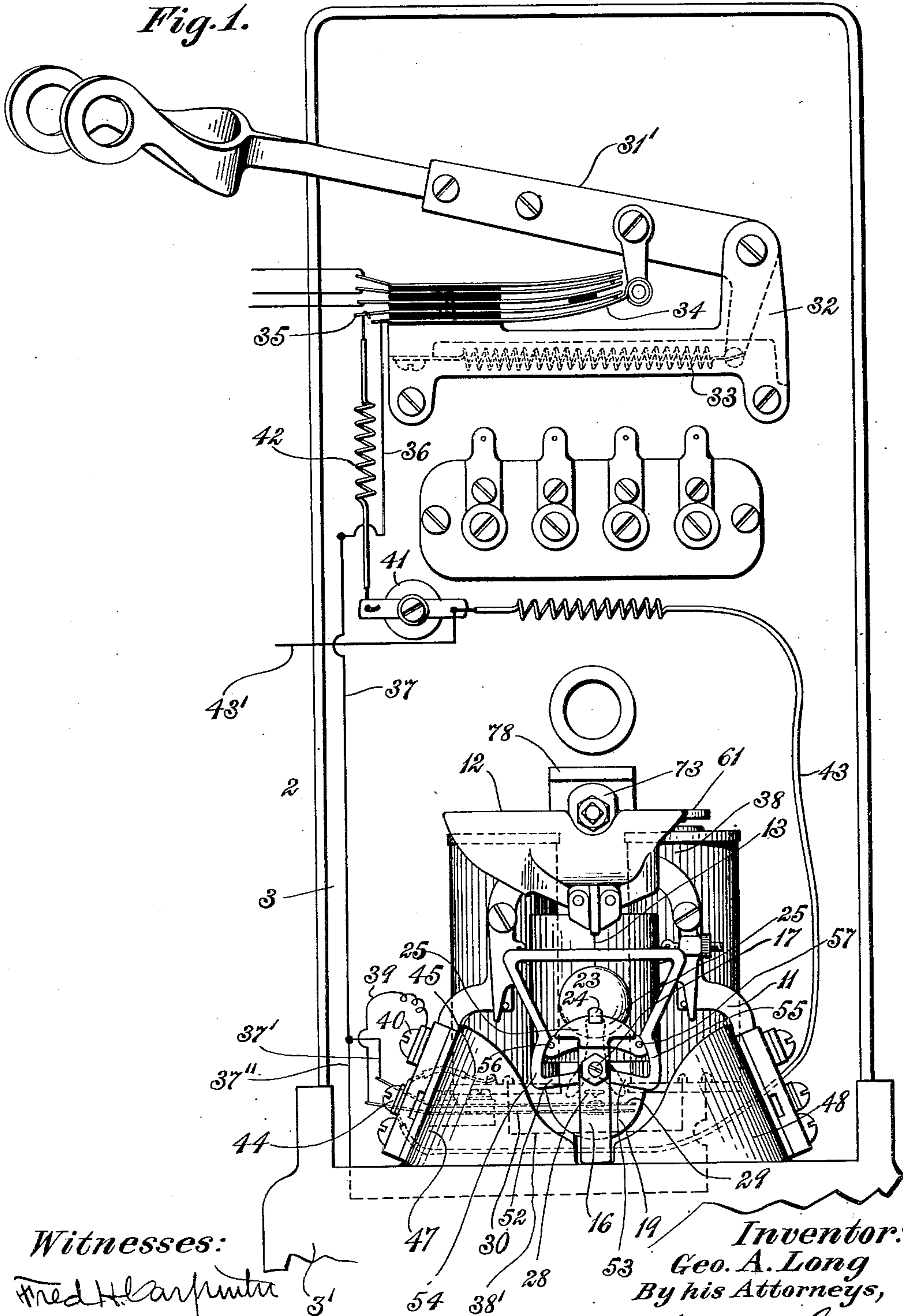
G. A. LONG.
TELEPHONE PAY STATION.
APPLICATION FILED MAY 14, 1908.

917,742.

Patented Apr. 6, 1909.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

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4 SHEETS—SHEET 3.

Fig. 4.

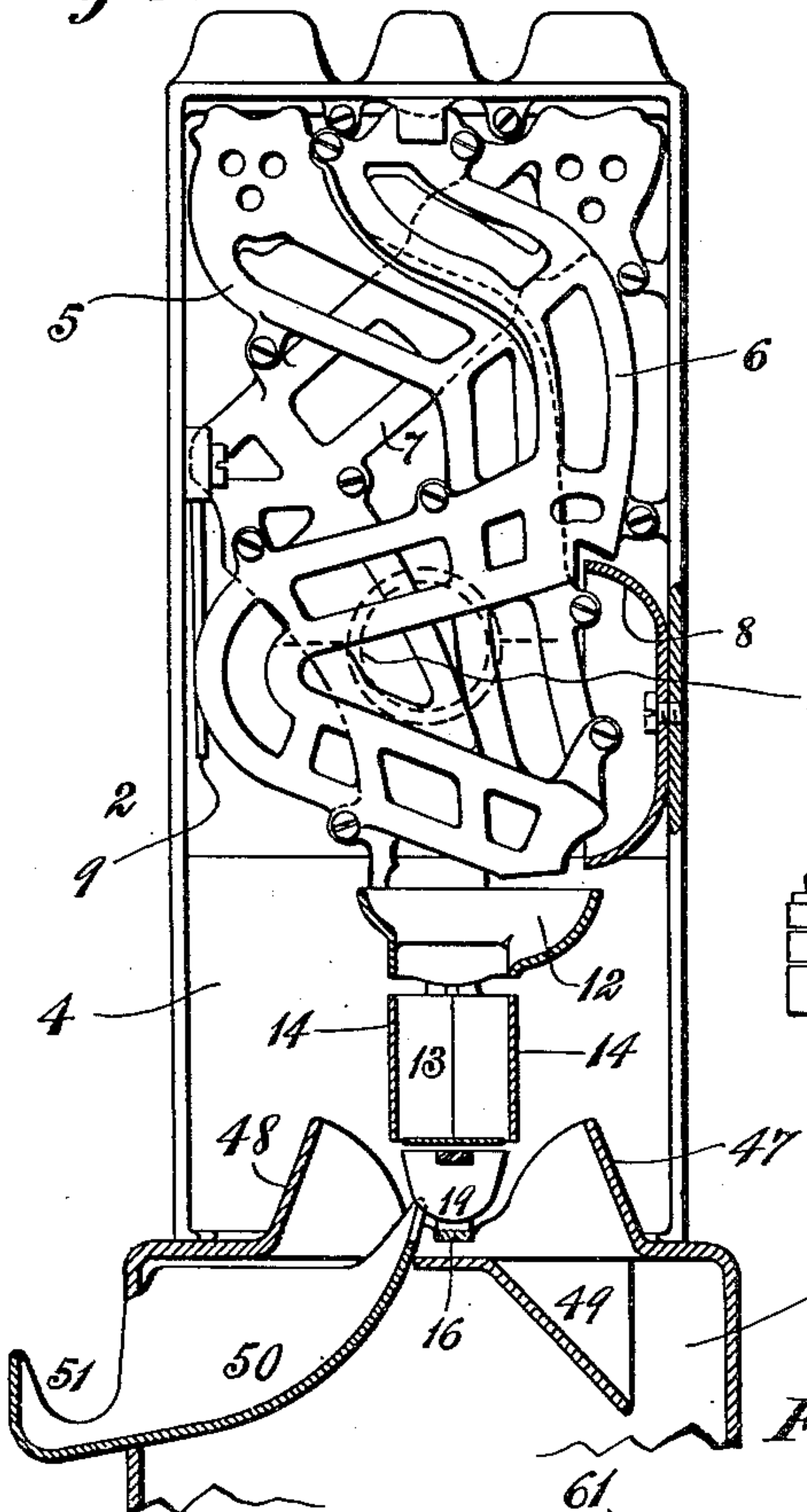


Fig. 6.

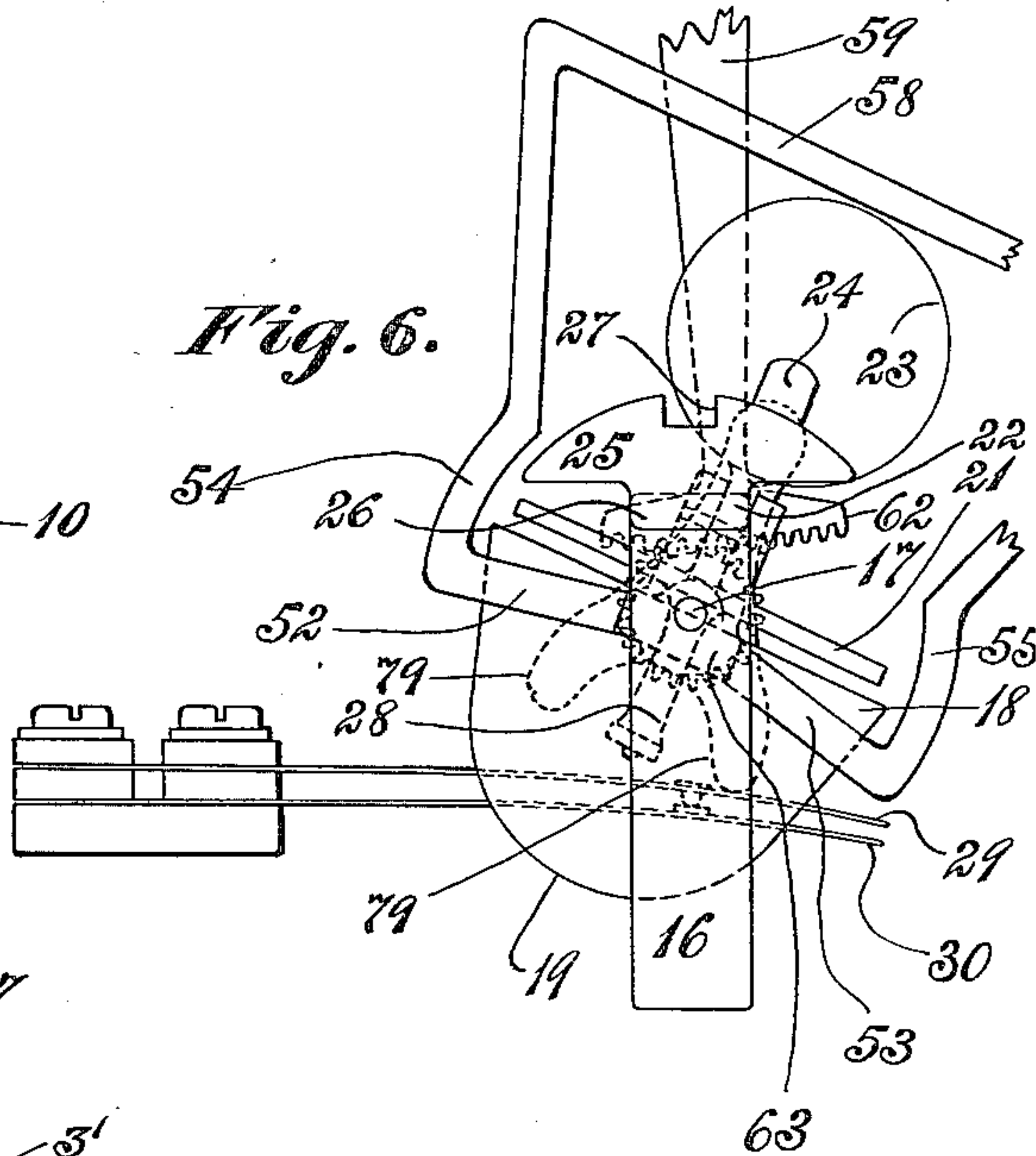
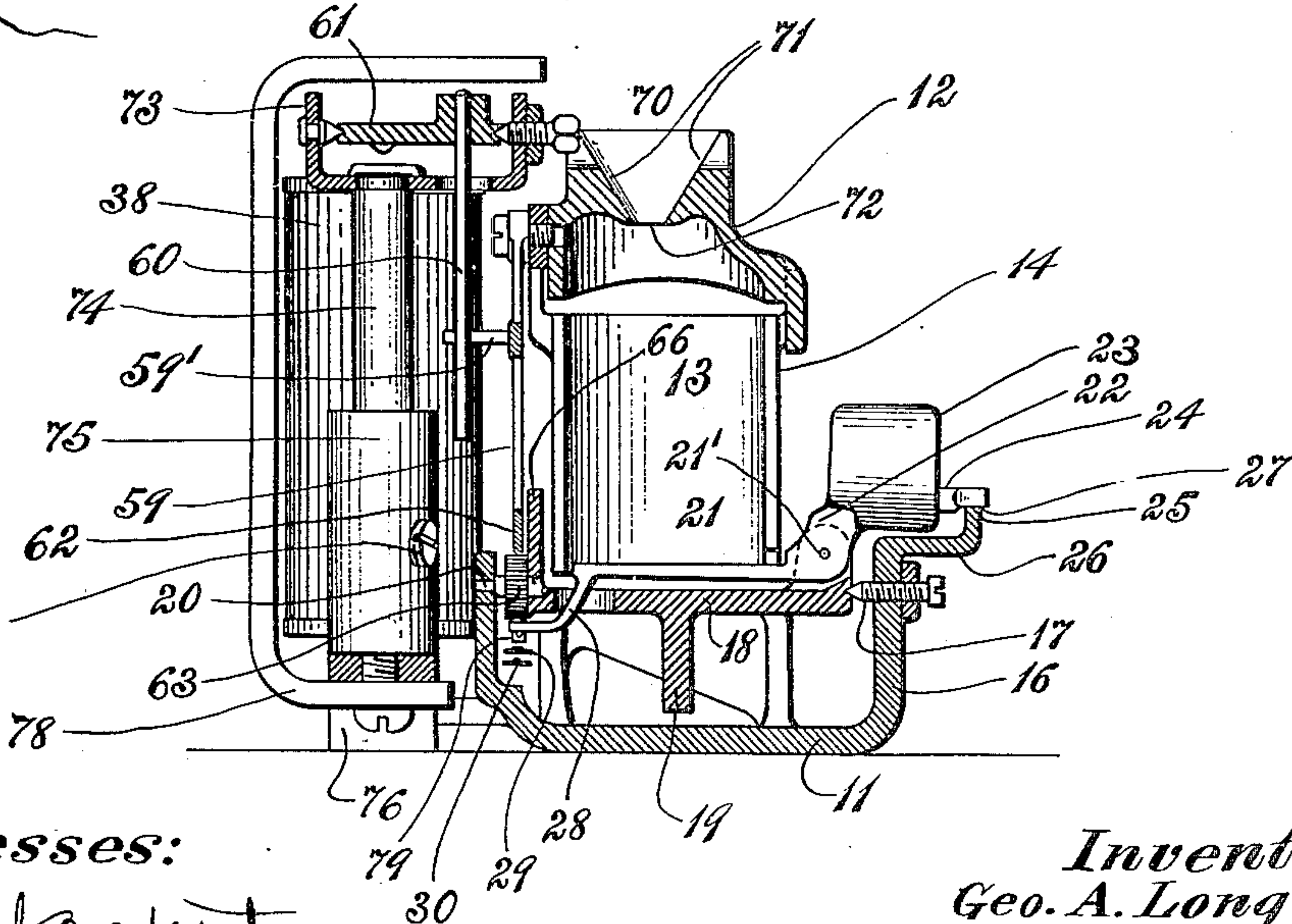


Fig. 5.



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4 SHEETS—SHEET 4.

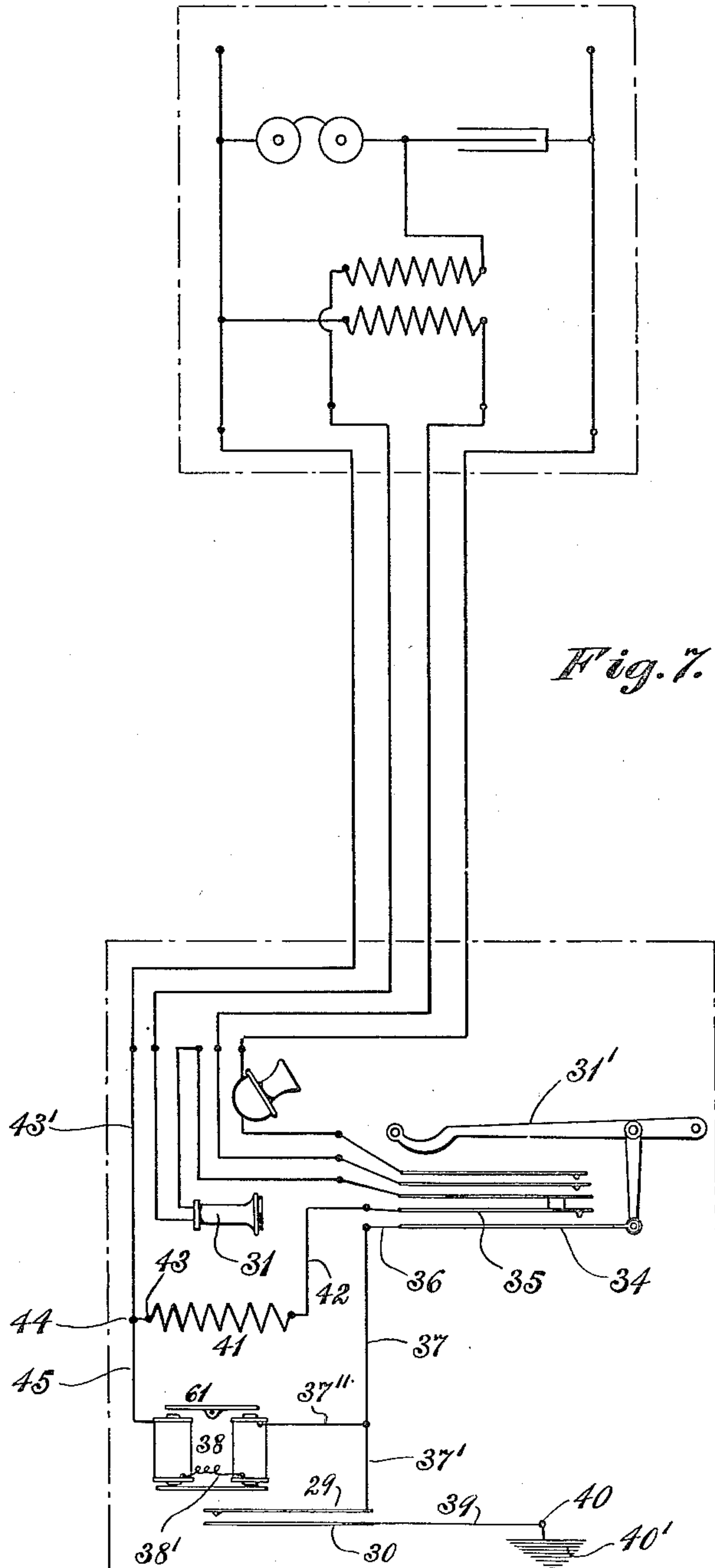


Fig. 7.

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UNITED STATES PATENT OFFICE.

GEORGE A. LONG, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE GRAY TELEPHONE PAY STATION COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

TELEPHONE PAY-STATION.

No. 917,742.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed May 14, 1908. Serial No. 432,787.

To all whom it may concern:

Be it known that I, GEORGE A. LONG, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Telephone Pay-Stations, of which the following is a specification.

This invention relates to telephone pay stations, the object of the invention being to provide a simple apparatus of this character which is effective and accurate in action.

In the drawings accompanying and forming part of this specification I have illustrated in detail one form of embodiment of the invention which to enable those skilled in the art to practice the same, will be set forth fully in the following description while the novelty of the invention will be included in the claims succeeding said description.

Referring to said drawings, Figure 1 is a view of portion of a telephone pay station equipped with circuit connections and controlling devices involving my invention and it also illustrates diagrammatically certain known connections. Fig. 2 is a sectional view of part of the casing, electro-magnet, contact-strips and certain adjunctive devices. Fig. 3 is a transverse-vertical section of the coin-receptacle, closure therefor, hopper, magnet and cooperating elements. Fig. 4 is a sectional elevation of a compound chute, signal means, coin-receptacle and other elements. Fig. 5 is a vertical, sectional view of the coin-receptacle, its hopper, its closure and certain cooperating parts. Fig. 6 is a detail view of contact strips, a cam-device and certain other parts. Fig. 7 is a diagrammatic view of certain known telephone connections and my circuit connections associated therewith.

Like characters refer to like parts throughout the several figures.

I wish to make it clear at the outset that I do not restrict myself to the construction illustrated in the drawings and hereinafter described as my invention resides rather in certain broad relations or combinations as expressed in my claims and by said drawings and description I disclose one simple and convenient mode or manner of carrying my invention into effect. I wish to also state that it is not necessary that I employ all the features of my invention in an organized apparatus; such features may be separately employed should I so desire.

Referring particularly to Figs. 1 and 4 the numeral 2 designates a telephone cabinet which is represented as including in its make-up a back-plate as 3 and a casing as 3'. The back-plate 3 presents the back for a housing as 4 which is illustrated as inclosing three chutes as 5, 6 and 7 which are preferably united together in some suitable manner and which are fixed in the shell or housing 4. The chute 5 is adapted to receive five cent pieces or nickels, while the chute 6 is adapted for the passage of ten cent pieces or dimes, the chute 7 being adapted for the traverse of twenty-five cent pieces or quarters. These chutes may be and preferably are of the character set forth in my copending application for patent for compound chutes filed March 27, 1908, Serial No. 423,593. Within the shell or housing 4 is fixed a bell as 8, one portion of the rim of which is located in proximity to the delivery end of the chute 6 while another portion of said rim extends into said chute 6 by way of a slot between the ends thereof so that a dime traveling along said chute 6 can sound said bell twice. A nickel as it emerges from said chute 5 will strike the bell 8 once. In addition to said bell there is mounted in the shell or housing 4 a gong as 9 adapted to be struck by a quarter traveling along the chute 7 the latter between its ends being slotted whereby a coin of the latter denomination can act upon said gong. I therefore provide for distinctive signals by coins of different denominations, which coins as will be understood are introduced into the upper ends of the said chutes 5, 6 and 7 through appropriate slots in the shell or housing 4.

The shell 4 is preferably metal and it carries the telephone transmitter 10 and as the bell 8 and gong 9 are also carried by said metal shell it follows that there is a resonant connection between the audible signals and transmitter 10 so that when the latter is in electrical connection with a distant receiver or one at a central office, the operation of the signals at the telephone pay station can be detected through said distant receiver by an operator at such central office. It will be assumed that said transmitter 10 forms part of a subscriber's station equipment and that this subscriber is in telephonic communication with an operator at the central office. The central office operator will instruct the subscriber what coin or coins to deposit and

by the sounds forwarded by the signals in the manner set forth the central office operator can readily determine whether or not the proper amount has been paid.

5 I wish to make it clear that the invention does not reside in any particular chute or signal. As a part of the invention, however, there is preferably employed some signal means which is coin-controlled and the operation of which can be ascertained by a central office operator; preferably the signal means is audible in type and the bell and gong to which allusion has been made, present convenient signal means of the character desired.

10 I have shown as mounted on top of the casing 3' a frame member as 11 which is shown best in Fig. 2, and I have illustrated as fastened to the top thereof a hopper as 12 and as shown best in Fig. 4 all three of the chutes 5, 6 and 7 are adapted to deliver their coins or tokens into a receptacle as 13. The receptacle 13 is shown as being of approximately cylindrical form and as composed of two substantially similar or complementary sections as 14 pivoted at their upper ends to the hopper 12, said pivots being so located as to cause the sections of the receptacle 13 to normally abut edge to edge by virtue of their weight, the receptacle during such abutment being closed—its normal or coin-receiving relation. It will be obvious that each of the sections 14 can move or swing relatively to the companion section, the swing in the present instance being laterally; that is when one member is swung relatively to its mate it will move away from the latter. The section of the receptacle 13 which is moved or thus swung will depend on the disposition of the coin or coins therein by the central operator. Should such operator desire to deliver a coin or coins in the receptacle 13 into a coin box as 15 removably located in the casing the section of member 14 on the left in Fig. 3 will be operated while should said operator wish to return the coin or coins to the subscriber or user of the telephone pay station the other section or member 14 will be caused to operate all as will be hereinafter fully described. The coin box 15 is ordinarily inclosed in the casing 3' under lock and key.

From the frame member 11 there is shown as extending forwardly an arm or bed piece as 16 of substantially L form, the vertical branch of said arm being shown as furnished with a pivot pin as 17 for a rocking or oscillatory member as 18 provided with a balance weight as 19. The rocking member 18 has in turn a pivot as 20 fastened thereto and which has an oscillating bearing in the frame member 11 all as shown in Fig. 5. The bottom of the receptacle 13 is illustrated as consisting of a disk as 21 which when in its normal or neutral position is adapted to fit

somewhat closely within said receptacle so as at such time to retain a coin or coins in said receptacle. Said disk constitutes a closure for the receptacle and also in itself acts as a coin-receiving device and as a means for securing the direction of a coin or coins along different paths which in the present case are differently directed. The movement of the coins along said paths is governed by the central office operator and as will hereinafter appear means are provided for preventing the coin or coins following one path when the same is or are directed toward another path by virtue of which perfect control of said coin or coins is assured.

The disk or closure 21 is provided at the front side thereof with a radially-projecting arm as 22 which is represented as extending upwardly and as provided with a weight as 23. On the weight is a forwardly projecting stud or pin as 24 coöperative with a segment as 25 rising from an upward projection as 26 on the vertical branch of the arm 16 as shown in Figs. 1 and 5. When the disk 21 is in its normal or neutral position at which time in the present case it stands horizontally, the pin 24 will be located in a notch as 27 in the segment 25 by reason of which said disk 21 will be positively locked in said neutral or normal position. Therefore before the disk can be swung in either direction from said horizontal position it is unnecessary to unlock or release the same this being preferably accomplished directly by a coin in the receptacle 13. It will be assumed that a coin has been introduced into the receptacle and has lodged upon the disk. When the coin is received upon said disk the weight of the coin causes the downward swing or depression of said disk whereby the pin 24 through the intermediate parts is lifted out of the notch or aperture 27 so that said disk will be freed from the automatic locking means and will be in condition to be swung oppositely from its normal position. When said disk has been returned to its normal position the pin or stud 24 will be caused to drop into the notch 27 by the power of the weight 23. Automatic locking means of which that just described is an example prevents the manipulation of the disk 21 by wire or other articles passed into the casing 3' from a point outside the same.

The disk 21 is shown as provided with a downwardly bent arm 28 disposed diametrically opposite the arm 22 and extending through a perforation in the rocking disk carrier 18. This arm 28 as will hereinafter appear constitutes a circuit controller it being adapted to bring into engagement or electrical connection an upper contact as 29 and a lower contact as 30 normally insulated from each other and carried by the frame member 11. When a coin depresses the

disk 21 in the manner hereinbefore described the arm 28 is also depressed and becomes effective for pressing the contact piece or member 29 into engagement with the cooperating contact piece 30, thereby bridging or closing one break in electrical connections located at the station and forming a part of the invention. A second break in said circuit connections is bridged by means under the control of the user of the station or subscriber and preferably by means or agents controlled by the customary hook-lever which constitutes a support for the well-known receiver with which the station is equipped.

The receiver is denoted by 31 and although its shiftable support 31' is shown in full and on a large scale in Fig. 1 said receiver is not the one shown in the diagrammatic view Fig. 7. The hook-lever 31' is shown as pivoted at its angle to a bracket as 32 fastened to the back plate 2. To the short branch of said hook-lever I have shown connected one end of a pull spring as 33, the opposite end of said spring being connected with said bracket 32. The longer arm of said hook lever is forked to receive the receiver and when the receiver is hung up said long arm is disposed approximately horizontally. When the receiver is removed from its supporting hook lever the spring becomes at once effective for swinging the long arm upward and through suitable means bridging a second break in the said circuit connections. To the long arm of said hook-lever 31' is linked a contact spring or strip as 34 which is cooperative with a similar contact spring or strip as 35 which strips when the receiver is on the hook-lever are insulated from each other. When the receiver is removed from the hook-lever the lower strip 34 will be caused to engage the upper strip 35 and make an electrical connection therewith or close a second break in the circuit connections at the telephone pay station. There are therefore two points of control of said circuit connections and the control is obtained in the present case by bridging two breaks by suitable means such as those described and the double control is governed primarily by the act of a subscriber or user of the telephone pay station although one control is obtained directly by such act while the other is obtained through the intervention of a coin or equivalent device.

An advantage follows the double control of the circuit connections. Were there a single control a signal would be operated usually by a coin. This signal is generally a lamp which is flashed when a coin is ordinarily introduced into the receiver. By this old method or single control a user will insert a coin into his station which will signify to the central office operator that he desires to make a telephonic connection. The central

office operator if the party called for be busy will tell the subscriber to hang up his receiver. When he does the lamp at the central station will remain alight as it is governed only by the coin. In the case of the double control, however, two functions are necessary before the lamp at central office can be flashed or before some other warning signal can be caused to act and by the mechanism described this lamp or analogous signal will cease to operate when the subscriber hangs up his receiver.

From the strip 34 a wire or equivalent connection as 36 extends and is connected with a wire as 37 which extends oppositely from its point of connection with the wire 36, its branch 37' being connected with the contact strip 29 while the branch 37'' is connected with one pole of the polarized electro-magnet 38. From the lower contact 30 a wire as 39 leads and is connected with a binding-post as 40 which has a ground connection as 40'. (See Figs. 1 and 7.)

On the back-plate 2 I have shown as mounted a resistance coil as 41 connected by a wire as 42 with the upper contact strip 35. The wire 42 leads from one terminal of said resistance coil; from the other terminal thereof a wire as 43 extends to the binding post 44 and from the latter a wire as 45 leads to one pole of the magnet 38, the two poles of said magnet being connected by a bridge wire as 38'. To the wire 43 I have represented as connected one of the two wires common in telephones and it might be stated at this point that my device can be employed in conjunction with any standard equipment without any change whatsoever therein. Said wire to which I have thus referred is a line wire and is sometimes also known as a tip strand to distinguish the same from the usual return wire which is not shown in Fig. 1. The wire 43' has a ground connection at central station and it is intersected by a battery and a relay controlling a local or lamp circuit. It will be assumed that the contacts 29 and 30 have been caused to engage by the insertion of a coin which is usually a nickel and that the contacts 34 and 35 have been caused to engage by the removal of the telephone receiver 31. When this occurs current will flow from the wire 43' to the wire 43 and also to the resistance coil 41. In other words the current divides or splits and the reason for this will be made clear hereinafter. That part of the current which enters the wire 43 will follow the same to the post 44, wire 45, left pole (Fig. 1) of magnet 38, bridge wire 38', right pole of said magnet, branch 37'', branch 37', upper contact 39, lower contact 30, wire 39, post 40, ground connection 40'. The other part of the current traverses the resistance coil 41, wire 42 contact strip 35, contact strip 34, wire 36, branch 37', contact 29, contact 30, wire 39,

post 40 and ground connection 40'. I therefore provide a shunt circuit which takes half the current fed by the wire 43' and this shunt circuit includes the resistance coil 41, the resistance interposed by which is equal to that presented by the magnet 38 although their total resistance is less than that of the relay and ground connection at the central office by virtue of which said relay can be energized when the two points of control are made. It will be obvious therefore that the described circuit connections present a convenient means for effecting the operation of a signal at the central office and from what has been stated it will be evident that this signal may be of any suitable type and the same statement applies to the telephone connections as my invention does not reside in either of these. When the light at the central office is flashed this will signify to the operator thereat that the subscriber wishes to make a telephonic connection. If it be merely local it will be given him. If it be long distance the subscriber will be ordinarily turned over to a long-distance operator who will advise him of the toll and the signal means as the bell and gong to which I have hereinbefore alluded, will when operated instruct the central operator whether or not the correct amount has been paid by the subscriber or user and the audible signal means operates independently of or distinctly from the warning signal operating means.

The posts or screws 40 and 44 with certain other posts or screws which form no part of the invention and need therefore not be described, may be mounted upon angularly-disposed arcuate flanges as 47 and 48 rising from openings in the top of the casing 3', the flange 47 being located above a spout or chute as 49 while the flange 48 is located above a spout or chute. The flanges serve as guards to prevent scattering of the coin when discharged from the receptacle 13. When the disk 21 is caused to tip in a direction to cause the coin or coins thereon to enter the coin-box 15 said coin or coins will fall onto the spout 49 and will be directed thereby into the box 15. When said disk is tipped in the opposite direction the coin or coins thereon will slide therefrom onto the spout 50 which is extended out of the casing 3' and which terminates in a tray or pocket as 51 exterior of said casing and into which a subscriber can reach to obtain the coin or coins in said tray or pocket. Should a wire or other instrument be projected exteriorly of the casing 3' thereinto by way of the opening in the side of the casing 3' through which the spout or runway 50 extends with the object of causing the arm 28 to make contact between the contacts 29 and 30 this will not be possible owing to the fact that said disk is locked in the manner set forth and said

disk can be freed to tilt by the action of a coin in the receptacle 13 which operates said disk in the manner also hereinbefore set forth.

The disk carrier 18 is provided with two oppositely-projecting rigid arms 52 and 53 provided with inwardly curved extensions 54 and 55 concentric with the axis of motion of carrier 18. Said axis in the present case is located at substantially right angles to that of the disk 21 which it will be observed is pivoted as at 21' to the carrier 18 at a point outside the receptacle 13. Said curved extensions 54 and 55 cooperate with pins as 56 and 57 extending from the sections 14 of the receptacle 13 as shown best in Fig. 1. In said figure the arms 52 and 53 are shown as being in their normal positions at which time the inner active curved faces of the extensions 54 and 55 are against the cooperating pins 56 and 57 whereby the relatively swinging sections 14 will be locked against outward or lateral swinging movement so as to secure the positive but temporary retention of a coin or coins in the receptacle sustained upon the disk 21. The curved extensions 54 and 55 are connected at their upper ends by a yoke as 58 which prevents abnormal outward swinging movement of the sections when either of them is freed from the locking relation to which I have referred. It will be assumed that the arm 53 is swung down by the tilting of the disk 21 and its carrier 18; it therefore follows that the arm 52 is swung upward, such relations being illustrated in Fig. 6 this operation being for the purpose of returning coins to the subscriber. When this occurs the active face of the locking extension 55 will immediately follow the downward movement of said arm 53 and will pass free of the pin 57 when the tilting motion of the disk 21 has been concluded thereby releasing the section 14 of the receptacle, on the right in Fig. 1 whereby as the coins fall off the laterally tipped disk said right section 14 can be swung open to freely release the coins, the section 14 on the left, however, at this time being held positively closed by the extension 54 whereby the coins cannot possibly be directed into the coin box 15 along the path hereinbefore set forth. During the downward swing of the arm 53 the curved active face of the extension 54 will remain in contact with the pin 56 thereby locking said left section to secure the result stated. When the arm 52 is swung downward the reverse actions will take place, this occurring when the coin or coins on the disk 21 are to be caused to enter the coin-box 15. The locking means therefore is normally active although it is of such nature that it may be operated to release one section 14 and lock the other and vice versa. It will be clear that the disk 21 has a compound motion or that it swings about two axes, its initial mo-

tion controlling circuit connections and effecting the release of locking means which normally restrains it and its other motion serving to deliver a coin along one of two predetermined paths.

I have shown as pivoted to the rear side of the hopper 12 and next the magnet 38, a lever as 59 which is shown as provided with a pair of parallel pins as 59' which receive between them an arm as 60 depending from the armature 61 of the electro-magnet 38. At the lower end of said lever there is shown a sector 62 rigid with said lever and the teeth of which mesh with those of a pinion as 63 rigid with the pivot or stub-shaft 20. When said lever 59 is swung to the right from its normal and substantially vertical position the sector 62 will operate the pinion 63 in such manner as to tilt the carrier 18 and the disk 21 supported thereby as to direct a coin or coins on said disk into the chute or runway 50 from whence they will pass into the tray 51 to be taken by the subscriber or user of the station, this operation following the failure of the central office operator to make a long distance connection for the subscriber or in fact it may follow the failure to make a local connection, the latter depending upon the rules in vogue in the particular locality in which the station may be installed. When the lever 59 is swung from its said normal position toward the left either in Figs. 2 and 6 the opposite results will take place; that is to say the coin or coins on the disk 21 will follow the path hereinbefore indicated to the coin box 15.

In the present case the oscillation of the lever 58 is secured through the action of an operator at central station. By sending current of one polarity through the magnet 38 one pole of the magnet will be energized to attract one arm of the armature while the other pole of said magnet will repel the other side of the armature, while by sending a current of opposite polarity through said magnet the armature 61 thereof can be oppositely tilted and by virtue of this relation the armature 61 and therefore the arm 60 depending from the center thereof, can be so operated to direct the coins along different paths respectively, this operation being governed by will. The currents of opposite polarity will traverse the connections hereinbefore described at the station and eventually will pass to ground by way of the connection 40'.

I have shown as pivoted to the inner side of the frame member 11 centralizing arms 65 and between the free ends of these arms 65 is disposed an upright arm as 66 rising from the carrier 18 at the inner side of the latter. A pull spring as 67 is shown as connected with one of said arms 65 and as connected with an adjusting screw as 68 tapped through the other of said arms. By the manipulation of said screw the tension of said spring can be regulated. The office of this spring 67 is to

return the carrier 18 and disk 21 to their neutral or central positions after they have been released from the pull of the magnet or following the deenergization of said magnet and to maintain said carrier and disk in said normal positions. It will be assumed that the arm 66 has been swung to the right in Fig. 2 following the corresponding motion of the carrier 18 and disk 21. When the disk and carrier are released from the action of the magnet 38, the spring 67 acting through the intermediate parts becomes effective for returning said disk and its carrier to their normal positions. The spring returns the armature 61 also through intermediate parts to its normal or neutral position. When the arms 65 are in their normal positions projections as 69 thereon will bear against stop pins as 69' on the frame member 11 and thereby limit the movement of said arms 65 toward each other and also the movement of each of them when the other is being shifted by and on the discharge motion of the disk 21.

The hopper 12 is of such construction as to insure the superimposition of coins in the receptacle 13 and presents a simple means for securing this result as thereby a small receptacle can be utilized to receive a large number of coins. Therefore I provide means for insuring the deposit of coins in a definite relation in a receptacle or on a receiving device of whatever nature such parts may be. The hopper 12 is somewhat enlarged at its upper portion as at 70 as shown best in Fig. 3 to receive all the coins from the three chutes 5, 6 and 7 without possibility of scattering. Near the lower portion of the hopper 12 therein are two inclined or sloping converging faces as 71 which lead toward the delivery slot or outlet 72 of said hopper, said slot being sufficiently elongated as to easily receive a coin of the largest size to which the instrument is adapted this being in the present case a quarter. The length of said slot as will be seen on inspection of Fig. 3 is equal or substantially equal to the internal diameter of the receptacle 13. Said slot 72 is located at one side of the transverse central diameter of the receptacle 13 so that coins are not delivered by the hopper 12 centrally into said receptacle but are directed thereinto at one side of said center so that for example in the case of a quarter such coin will strike the upper side of the receptacle 13 at the rear of such center and when the coin is fully free of the hopper 12 the same will be caused to tip or assume a horizontal position in which condition it enters said receptacle.

The armature 61 of the electro-magnet 38 is carried for rocking motion by a support as 73 represented as consisting of a yoke fastened between its ends to the top of a post as 74 adjustably supported by a hollow stud or barrel as 75 mounted on a bearing as 76 on the casing 3', the adjustment of the post

or rod 74 being maintained by a set screw as 77 tapped through said hollow stud or barrel 75. A permanent magnet as 78 augments the effect of the electro-magnet 38, said permanent magnet being fastened at its lower end to the bearing 76 and its head or top overhanging said permanent magnet.

With the carrier 18 are integral two cams as 79 one of which when the disk is tipped one way serving to press the contact 29 against the contact 30 and the other of which when said disk is tipped oppositely serving to repeat such function so that even should the arm 28 be moved out of contact with the upper of said contacts the circuit connections will be closed at such point during the lateral tipping of the disk whereby the magnet can be energized a time sufficient to secure complete discharge of a coin or coins from said disk. In other words the disk 21 will remain laterally tipped so long as the switch at central office is thrown to a position to energize said magnet. This provides for a third control of the circuit connections and a ground connection involving said magnet whether the coin be off the disk 21 or on the same or whether the telephone receiver be on or off its supporting hook. It will also be evident that the magnet 38 can be energized even if the receiver be hung up or off its supporting hook-lever.

In the diagrammatic view Fig. 7 I have shown certain known telephone connections which I deem it unnecessary to describe; they form no part of the present invention.

What I claim is:

1. A telephone pay station comprising circuit connections, a telephone receiver support mounted for shifting movement and coin operated means conjointly effective to control the circuit of which said connections form a part combined with means for effecting the action by coins of different denominations, of signals of different characters.

2. A telephone pay station comprising circuit connections, a telephone transmitter, a telephone receiver support mounted for shifting movement and coin-operated means the latter and said support being conjointly effective to control the circuit of which said connections form a part combined with means for effecting the action by coins of different denominations of signals of different characters.

3. A telephone pay station comprising circuit connections, a telephone receiver support mounted for shifting movement and coin operated means, said support and coin-operated means having devices operatively associated therewith for conjointly and simultaneously closing the circuit of which said connections form a part.

4. A telephone pay station comprising circuit connections, a telephone receiver support mounted for shifting movement, means

operative with said support for controlling the circuit of which said connections form a part, and coin operated means for controlling the same circuit at another point the two controlling means being simultaneously operative before control of said circuit can be obtained.

5. A telephone pay station comprising circuit connections, a mechanical device set in action by a subscriber, means governed by said mechanical device for controlling the circuit, coin-operable means for also controlling said circuit, the two controlling means being conjointly effective, and coin-operable means for producing signals of different characters.

6. A telephone pay station comprising circuit connections having two breaks, a telephone receiver support shiftably mounted, means operative with said support for bridging one of said breaks, and coin-operable means for bridging the other break.

7. A telephone pay station comprising circuit connections, means operative by a coin for controlling the circuit of which said connections form a part, and coin-controlled signal means operable independently of the coin-operated circuit controlling means.

8. A telephone pay station comprising circuit connections, means operable by the act of a subscriber for controlling the circuit at one point, means operated by a coin for controlling the circuit at another point, and signal-means operable by a coin and independent of said circuit controlling means.

9. A telephone pay station comprising circuit connections having two breaks, means operable by the act of a subscriber for closing one of said breaks, coin-operated means for closing the other break, and signal-means operable by coins and active independently of said circuit break closing means.

10. A telephone pay station having coin-controlled means for causing the action of a warning signal, and coin-operated signal means active independently of said first-mentioned means.

11. A telephone pay station having means operable by a coin for causing the action of a signal, audible signal means operable independently of the other means, and a telephone transmitter in resonant connection with said audible signal means.

12. A telephone pay station having distinct means for causing the action of a warning signal, one means being operable by the act of a subscriber and the other by a coin, and coin-operable signal means operable independently of said other means.

13. A telephone pay station having distinct means for operating a signal, and independent coin-operated means for causing the action of signals of different characters.

14. A telephone pay station having distinct means for operating a signal, audible

signal means, coin-operated means for causing the operation of said signal means to produce signals of different characters, and a telephone transmitter in resonant connection with said signal means.

15. A telephone pay station having distinct means for causing the action of a warning signal, one means being operable by the act of a subscriber and the other by a coin, coin-operated signal means for producing signals of different characters, and a telephone transmitter in resonant connection with said signal means.

16. In a telephone pay station, circuit connections, means whereby separate acts are required to control the circuit of which said connections form a part, means for operating signals of different characters by coins of different denominations, a device to temporarily retain the coins after they have operated said signals, and means for releasing the coins thus retained.

17. A telephone pay station comprising circuit connections, distinct devices for controlling the circuit of which said connections form a part, a telephone transmitter, a plurality of audible coin-operable signals in resonant connection with said transmitter, a device to temporarily retain the coins after they have operated said signals, and means for releasing the coins thus retained.

18. A telephone pay station having distinct means for operating a signal, independent coin-operated means for causing the action of signals of different characters by coins of different denominations, a device to temporarily retain the coins after they have operated said signals, and means for releasing the coins thus retained.

19. A telephone pay station comprising means for effecting the action of a warning signal, coin operated means for producing signals of different characters separate from the warning signal, means for supporting a group of the coins, and means operable at will for effecting the positive discharge of the coins from said supporting means.

20. A telephone pay station comprising distinct means for operating a signal, a telephone transmitter, a plurality of audible, coin-operable signals in resonant connection with transmitter and for sounding signals of different characters, a device to temporarily retain the coins after they have operated said signals, and means operable at will for directing the coins in a group along either of two paths.

21. A telephone pay station comprising a casing having a coin box and also having a coin-outlet, circuit connections, means whereby separate acts are required to control the circuit of which said connections form a part, coin-operable means for effecting the action of signals of different characters, means for retaining temporarily the coins after they

have operated said signals, and means operable at will for directing the coins in a group either into said coin-box or through said coin-outlet.

22. A telephone pay station comprising circuit connections, a plurality of interdependent circuit controlling devices for controlling the circuit of which said connections form a part, a telephone transmitter, audible coin-operable signal means in resonant connection with said transmitter, and means operable at will for causing the coin which has operated said signal means to take different paths.

23. A telephone pay station comprising circuit connections, a plurality of interdependent circuit controlling devices one of which is coin-operable, for controlling the circuit of which said connections form a part, a telephone transmitter, means operable by coins for sounding signals of different characters and in resonant connection with said telephone transmitter, means for temporarily retaining the coins in a group after they have operated said signal means, and means for causing the coins to take different paths.

24. A telephone pay station comprising circuit connections and mutually dependent devices for controlling said circuit one of said devices being operable by the act of a subscriber and the other by a coin, a telephone transmitter, means in resonant connection with said transmitter and coin operable for sounding signals of different characters, a device to retain the coins after their operation of said signals, and means operable at will for causing all the coins to take one path or all of them to take another path.

25. In a telephone pay station, a coin-receptacle, a plurality of coin-chutes each adapted to deliver a coin to said receptacle, signal means operable by the coins to produce signals of different characters, a device to retain the coins temporarily in said receptacle, a coin-box, and means to operate said device and cause the coins thus retained to pass into said coin box.

26. In a telephone pay station, circuit connections, means operable by the act of a subscriber for controlling the circuit including said connections, a coin-chute, signal means operable by a coin traversing said chute, a receptacle to receive the coin, and a device operable at will for temporarily retaining the coin in said chute and shiftable to direct the coin in different directions.

27. In a telephone pay station, means operable by the act of a subscriber for causing the action of a warning signal, coin-operated audible signal means, a telephone transmitter in resonant connection with said signal means, and a device to receive the coin and shiftable to direct the coin in different directions.

28. In a telephone pay station, means op-

erable by the act of a subscriber for causing the action of a warning signal, means for forwarding coins of different denominations, means actuated by the coins for producing signals of different characters, a telephone transmitter in resonant connection with said signals, the latter being audible, and a device to receive the coins in a collection and shiftable to deliver the coins in different directions.

29. In a telephone pay station, circuit connections comprising two breaks, coin operated means for closing one of the breaks, means operated by the act of a subscriber for closing the other break, means for forwarding coins of different denominations, a device to support several coins of such denominations and shiftable to deliver the coins in different directions, and signal means operable by the coins.

30. In a telephone pay station, circuit connections, means operable by the act of a subscriber for controlling the circuit of which said connections form a part, means for forwarding coins of different denominations, means actuated by the coins, for causing the operation of different kinds of signals, a device to receive several coins, and means for shifting said device to cause the movement of the coins in different directions.

31. In a telephone pay station, a device for simultaneously receiving several coins of different denominations, and means for operating said device to cause the discharge of said coins therefrom in different directions.

32. In a telephone pay station, a device adapted to simultaneously receive and support a plurality of coins of different denominations, said device being operable to direct the coins carried thereby in different directions.

33. A telephone pay station comprising a telephone transmitter, means for forwarding coins, audible signal means operable by the coins and in resonant connection with said transmitter, means for temporarily holding said coins in a group after they have operated said signal means, and means operable at will for causing said coins to take either of two paths.

34. In a telephone pay station, means for forwarding coins of different denominations, means to receive simultaneously several of such coins, and means for causing said coins to take different paths.

35. In a telephone pay station, a device to simultaneously receive coins of different denominations, means for forwarding such coins to said device, signal means operable by the coins, and means for operating said device to cause the coins thereon to take different paths.

36. In a telephone pay station, a device adapted to simultaneously receive and sup-

port a plurality of coins of different denominations, and means to simultaneously cause the coins thereon to simultaneously all follow one path or to simultaneously all follow a different path.

37. In a telephone pay station, means for forwarding coins of different denominations, a device for receiving and temporarily supporting said coins in superimposed relation, and means operable at will for releasing said coins.

38. In a telephone pay station, means for supporting a plurality of coins of different denominations in superimposed relation, and means for causing all the coins to take one path or all of them to take a different path at will.

39. In a telephone pay station, means for forwarding coins of different denominations, signal means operable by the coins, a device to receive several of the coins simultaneously, and means to cause the coins to travel one path or a different path at will, after the same have been received by said device.

40. In a telephone pay station, means for forwarding coins of different denominations, signal means operable by the coins to produce signals of different characters, a device to simultaneously receive several of the coins after the operation of the signal means, and means to cause all the coins to travel one path or a different path at will.

41. In a telephone pay station, circuit connections, mutually-dependent circuit controlling devices for the circuit of which said connections form a part, one of said devices being coin-operable, a shiftable coin-receiving device, and means for normally locking said shiftable coin-receiving device against movement.

42. In a telephone pay station, circuit connections comprising two breaks, a pair of devices simultaneously effective for closing said breaks one of them being operable by the act of a subscriber and the other by a coin, a shiftable coin-receiving device, and automatically-operative means for normally locking said shiftable coin-receiving device against movement.

43. In a telephone pay station, a shiftable coin-receiving device, a segment, and a coin-operated locking arm normally engaging the segment to prevent movement of said shiftable coin-receiving device.

44. In a telephone pay station, a shiftable coin-receiving device, a weighted arm constituting a locking device, and a relatively fixed part engageable by said arm to normally prevent movement of said device, the arm being coin-operable.

45. In a telephone pay station, circuit-connections, means whereby a plurality of acts are necessary to secure control simultaneously of said circuit connections, coin-

operated signal means for sounding signals of different characters, means for shifting the coins along different paths, and means for preventing the coins from following one path when they are directed toward the other path.

46. In a telephone pay station, coin operated means for sounding signals of different characters, means for receiving the coins after their operation of the signal means, means for causing the direction of the coins along different paths, and means for preventing the coins from following one path when they have been directed toward the other path.

47. In a telephone pay station, coin-operated means for operating signals of different characters, means for receiving the coins, means for causing them to follow different paths, and means for preventing the coins from taking one path when they have been directed toward the other path.

48. In a telephone pay station, circuit connections, coin-operable means for controlling the circuit of which said connections form a part, coin-operable means for sounding signals of different characters, a telephone transmitter in resonant connection with the signal means, a device to receive the coins, means for causing the coins to all follow one path or all follow a different path, and means for preventing the coins from taking one path when they have been caused to take the other path.

49. In a telephone pay station, a device for supporting a plurality of coins in superimposed relation, means for shifting the said device and causing the coins to all take one of two different paths, and means for positively preventing any one of the coins from taking one of said paths when directed toward the other.

50. In a telephone pay station, means for forwarding coins of different denominations, means for supporting said coins in superimposed relation, means for causing the coins to simultaneously take either of two different paths, and means for positively preventing any one coin from following one of said paths when directed toward the other.

51. In a telephone pay station, means operable at will for causing the action of a signal, a telephone transmitter, audible coin-operated signal means in resonant connection with said transmitter and operable by coins of different denominations, means for temporarily retaining the coins in superimposed relation after they have operated said signals, and means operable at will for releasing said coins.

52. In a telephone pay station, a telephone transmitter, a plurality of signals of audible type in resonant connection with said trans-

mitter and operable by coins of different denominations, means for retaining temporarily the coins after they have operated said signal means, and means operable at will for directing the coins along different paths.

53. In a telephone pay station, a plurality of signals each coin operable and adapted for sounding signals of different characters, a telephone transmitter in resonant connection with said signals, a rocking device to support the coins after they have operated said signals, means for operating said rocking device in opposite directions from its coin-receiving position, and means for positively restoring said rocking device to its coin-receiving position after it has been shifted.

54. In a telephone pay station, a shiftable coin-supporting device, means for operating said shiftable coin-supporting device to cause a coin thereon to take different paths, and means at opposite sides of the coin-supporting device for preventing said coin from taking one path when it has been directed toward the other path.

55. In a telephone pay station, a shiftable coin-supporting device mounted for oscillation, means for oscillating said coin-supporting device in opposite directions, and separate devices one active for preventing the coin taking one path when shifted along the other path and the other of which is active for preventing said coin from following a path taken by the other coin.

56. In a telephone pay station, a telephone transmitter, means for producing audible signals by the action of coins of different denominations and in resonant connection with said transmitter said signals being of different character, means for temporarily retaining the said coins of different denominations after the signal means have been operated, means for directing the coins in a group along different paths, and means for preventing any one coin in one group from following a path different from the remainder thereof after said group has been directed along a predetermined path.

57. In a telephone pay station, a receptacle comprising shiftable sections and a shiftable closure for said receptacle the closure when in its normal position being adapted to retain a coin in said receptacle and being movable in opposite directions from said normal position to discharge a coin therefrom in different directions, one section being movable when the coin is caused to follow one path, and the other section being movable when the coin is caused to follow the other path.

58. In a telephone pay station, a coin-receptacle comprising swinging sections, and an oscillatory closure therefor, the closure

being adapted when in its normal position to retain a coin in the receptacle and being shiftable oppositely from said normal position to discharge a coin therefrom in different directions, one section of the coin-receptacle being adapted to swing when the coin is caused to follow one of said directions and the other being adapted to swing when the coin is caused to follow the other of said directions.

59. In a telephone pay station, a coin-receptacle comprising shiftable sections, a shiftable closure for said receptacle adapted when in its normal position to retain a coin in said receptacle and shiftable from said normal position to different positions, one section of the receptacle being adapted to move when the closure is shifted one way and the other section being adapted to move when the closure is shifted the other way, and means for positively holding one of the sections against movement during the movement of the other.

60. In a telephone pay station, a coin-receptacle comprising shiftable sections and a shiftable closure therefor, the closure being adapted when in its normal position to retain a coin in said receptacle and being shiftable in opposite directions to direct the coin along different paths one of the sections of the receptacle being adapted to move when the closure is moved in one direction and the other being adapted to move when the closure is shifted in the other direction, and means for positively preventing each section from movement when the companion section is being shifted.

61. In a telephone pay station, a coin-receptacle comprising a body section mounted for shifting movement and a closure for the receptacle also mounted for shifting movement and adapted when in its normal position to retain a coin in said receptacle, said shiftable body section being adapted to move on the movement of the closure.

62. In a telephone pay station, a coin-receptacle comprising a body section mounted for shifting movement, a closure for the receptacle adapted when in its normal position to retain a coin in said receptacle, the closure and shiftable body section being capable of movement together, means for directing a coin into said receptacle, and signal means operable by the coin.

63. In a telephone pay station, a coin-receptacle comprising shiftable sections, and a closure for retaining a coin in said receptacle when in the normal position thereof and shiftable oppositely from said normal position to discharge the coin in one or the other of different directions, and means operative with the closure for holding both sections against movement when the closure is in its normal position and for holding one section

against movement when the closure is shifted to discharge a coin in one of said directions.

64. In a telephone pay station, a coin-receptacle comprising swinging sections, and a swinging closure therefor adapted when in its normal position to retain a coin in said receptacle, and means for locking both sections against movement when the closure is in its normal position and for locking one section against movement and releasing the other section when the closure is swung in one direction and for reversing said relation when the closure is swung in the opposite direction.

65. In a telephone pay station, circuit connections comprising a magnet and a pair of contacts one of which is electrically connected with said magnet, coin-operated means for causing one of the contacts to engage the other, means for moving the coin away from the place at which it causes the engagement between said contacts, and independent and automatically operative means for continuing the engagement between said contacts.

66. A telephone pay station comprising circuit connections, mutually-dependent devices for controlling the circuit of which said connections form a part and one of which is coin operable, a device to temporarily retain the coin, means for effecting the discharge of the coin from said device, and means for maintaining the circuit during the discharge of the coin.

67. A telephone pay station comprising circuit connections, mutually dependent devices for controlling the circuit of which said connections form a part and one of which is coin-operable, signals operable by coins of different denominations, means to temporarily retain the coins after they have operated the signals to thereby maintain the said circuit, means for releasing the coins, and means for maintaining the circuit after the coins have been released.

68. A telephone pay station comprising circuit connections having two breaks, mutually dependent devices for closing the breaks and one of which is coin operable, means to retain the coin temporarily in position where it can close the break governed thereby, means for releasing said coin, and means for closing the break governed by said coin after the latter has been released.

69. In a telephone pay station, a receptacle having a movable closure, circuit connections comprising a magnet and a pair of contacts one of which is connected with said magnet, said movable closure being coin operated and having means for causing one of said contacts to engage the other, means for operating said closure to cause the same to discharge a coin thereon and thereby free the contact member which said closure operates, and means for causing the contact thus con-

trolled to engage the companion contact independently of the closure and during the time the latter is discharging its coin.

70. A telephone pay station, comprising
5 circuit connections, means whereby separate acts are required to control the circuit of which said connections form a part, and means for effecting the action by coins of dif-

ferent denominations, of signals of different characters.

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In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. LONG.

Witnesses:

HEATH SUTHERLAND,
JOHN C. ANDREWS.