

No. 708,138.

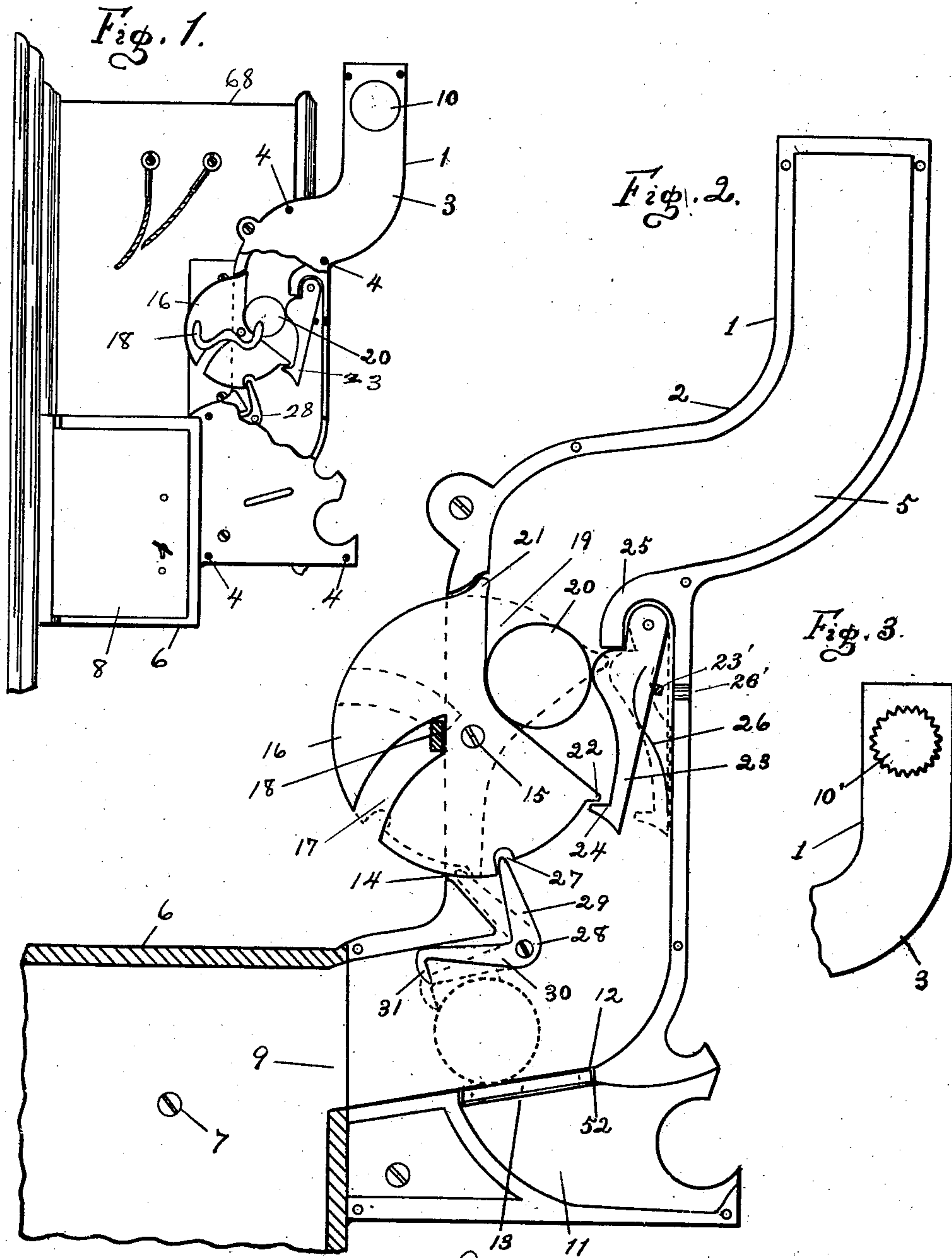
Patented Sept. 2, 1902.

S. P. GREY.  
COIN CONTROLLED TELEPHONE.

(Application filed Oct. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Adelaide Kearns.  
Augusta Viberg.

Sylvester P. Grey INVENTOR

BY *Chapin & Denny*  
ATTORNEYS.

No. 708,138.

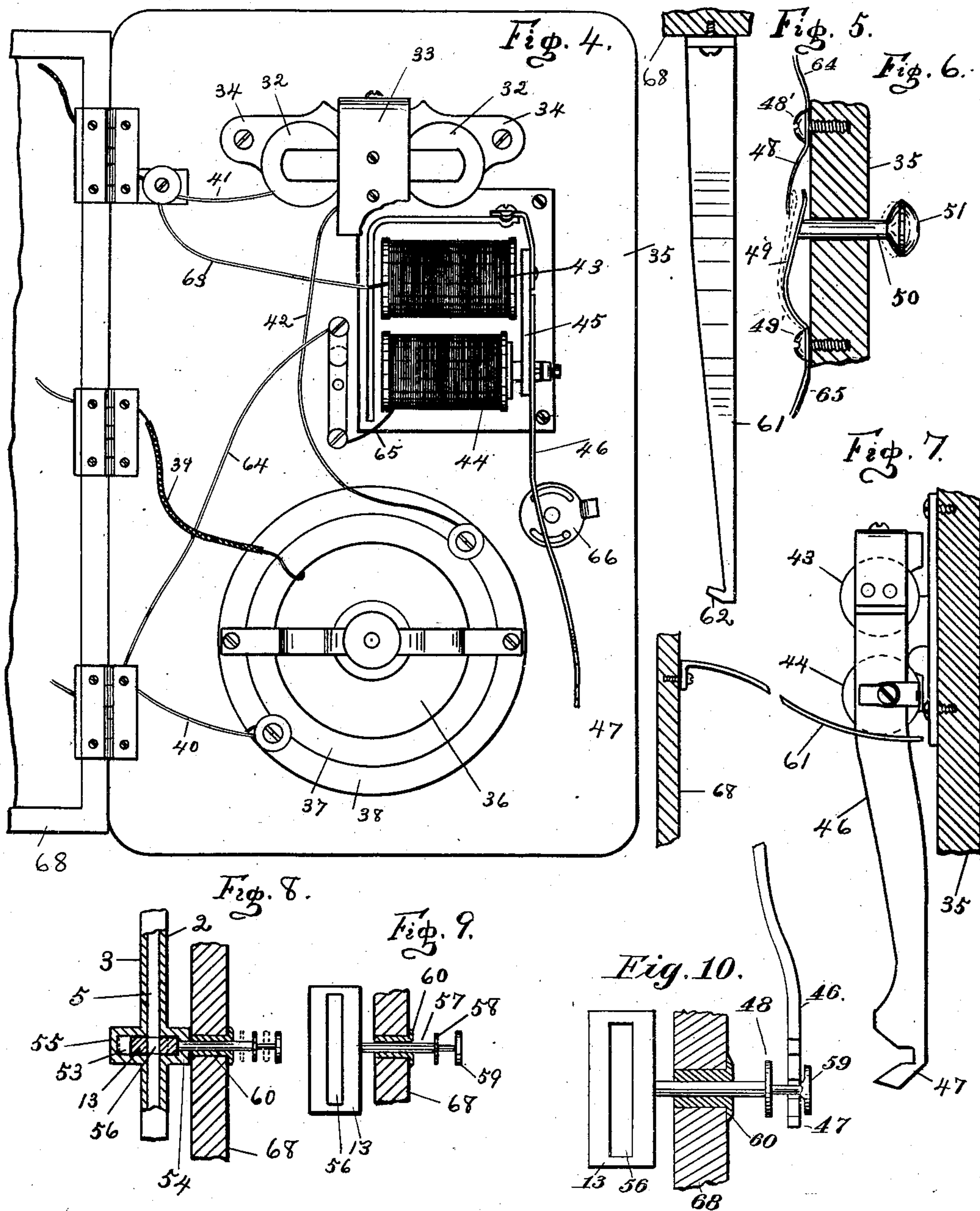
Patented Sept. 2, 1902.

S. P. GREY.  
COIN CONTROLLED TELEPHONE.

(Application filed Oct. 14, 1901.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

Adebaide Kearns.  
Augusta Viberg.

Sylvester P. Grey INVENTOR

BY Chapin & Denny  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

SYLVESTER P. GREY, OF FORT WAYNE, INDIANA, ASSIGNOR OF ONE-HALF  
TO FRANKLIN HOWENSTEIN, OF FORT WAYNE, INDIANA.

## COIN-CONTROLLED TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 708,138, dated September 2, 1902.

Application filed October 14, 1901. Serial No. 78,539. (No model.)

*To all whom it may concern:*

Be it known that I, SYLVESTER P. GREY, a citizen of the United States, residing at Fort Wayne, in the county of Allen, in the State of Indiana, have invented certain new and useful Improvements in Coin-Controlled Telephones; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in coin-controlled telephones.

The object of my invention is to provide an efficient and reliable coin-controlled telephone attachment of economical construction specially designed for public stations, so constructed that a coin of predetermined size and value must be deposited therein by the patron to establish the circuit with the central station and also so arranged that in case the patron fails for any cause to get into communication with the party called for he can have the central operator return to him the coin he had previously deposited.

Another object of my invention is to provide an improved means for securing the call-box against intruders and placing the opening of the same under control of the central operator.

My invention consists of a vertically-arranged coin-chute detachably mounted upon the call-box and discharging normally into a coin or toll receptacle, a coin-arresting disk mounted in the coin-channel, a spring-pressed pawl arranged in the coin-channel and adapted to holdingly engage the said disk when the circuit is open, means for again arresting the coin before its discharge into the toll-receptacle, means for delivering the arrested coin to the patron by the central operator, and means for placing the opening of the call-box under control of the central operator.

In a pending application for a patent on coin-controlled telephones I have described and claimed a coin-controlled mechanism similar to the coin-arresting disk and locking-pawl shown in this application; but the novel features of my present invention reside

in the means for delivering the toll-coin to the patron under the above-described conditions and in the means by which this mechanism, as well as the opening of the call-box, is placed under the exclusive control of the central operator.

In the accompanying drawings, in which similar reference-numerals indicate like parts, Figure 1 is a side view of my improvement in position upon a proper call-box with the coin-chute broken away in part to show the coin-arresting mechanism arranged therein. Fig. 2 is an enlarged detail of the coin-chute with the plate which closes the coin-channel removed to show the inclosed operating mechanism, with the toll-receptacle shown in section and broken away to show the relative arrangement of the discharge end of the coin-channel. Fig. 3 is a detail of a modified form of opening in the coin-chute for metallic checks instead of coin. Fig. 4 is an enlarged detail of the call-box door, showing the electrical mechanism upon its inner face, the door being hinged to the call-box. Fig. 5 is a detail bottom plan of the forwardly-projecting arm for locking the inner door. Fig. 6 is a detail side view of the means by which the patron closes an auxiliary circuit when he fails to get service and desires the return of his toll. Fig. 7 is a detail side view of the spring-arm by which the coin-slide is actuated, showing the said forwardly-projecting arm in engagement therewith and broken away in part. Fig. 8 is a view of the coin-slide in cross-section in position in the coin-chute, also in cross-section, showing the pin by which the said slide is actuated. Fig. 9 is a detail plan of the said slide and the actuating-pin therefor in position. Fig. 10 is an enlarged view of Fig. 9 with the slide-actuating lever connecting therewith.

The coin-chute 1 of any desired contour and dimensions, preferably of the upright irregular form shown, consists of two plates 2 and 3, secured together in parallel arrangement by proper bolts or rivets 4. The plate 2 has upon its inner face a longitudinal recess 5, which forms the circuit coin-channel, which is closed at its upper end, but opens at its lower end into a proper toll receptacle or box 6, which may be cast integral with the



said plate 2, if desired, or may be secured in position in any proper manner, as by the screw 7. This coin-box 6 has a suitable door 8, which is kept locked in use and has a proper slot 9 in register with the lower end of the coin-channel 5. The other side of this coin-channel is closed by the removable plate 3, which has a proper lateral opening 10 near its upper end to readily admit the coin, Fig. 1. By arranging the upper opening of the coin-channel at the side of the chute instead of the end thereof it is more difficult to tamper with the operating mechanism. This opening may have a serrated edge, as shown at 10' in Fig. 3, to register with the corresponding checks with which the patron may be supplied and with which the arresting mechanism can be actuated in identically the same manner as by the use of a coin. The plate 2 is provided at its lower end with a lateral auxiliary coin-channel 11, open at its outer end and communicating with the channel 5 by means of the slot 12 in the bottom thereof. This slot is normally closed by the slide 13, hereinafter described. At a suitable point on its rear edge the plate 2 is provided with a lateral slot 14, in which is fixed a pin 15, on which is revolvably mounted a coin-arresting disk 16. This disk has a slightly-curved radial slot 17 at a proper point in its periphery, adapted to receive and contain the receiver-hook 18 when it is in normal position with its receiver suspended therefrom, and also has its perimeter provided with a radial recess 19, adapted to normally receive and arrest the coin 20 or its equivalent, Fig. 2. At opposite sides of the recess 19 are arranged the peripheral lugs 21 and 22, respectively, whose functions are about to be described. Within the coin-channel 5 and in coöperative relation with the said disk 16 is pivotally mounted the pendent spring-pressed pawl 23, whose lower free end has a lug or hook 24 upon its rear face, adapted to engage the said lug 22, and thereby limit the rotation of the disk in a forward direction. The upper pivoted end of the said pawl 23 is protected against contact with or interference by the descending coin by means of the curved lug 25, whose thickness is equal to the depth of the coin-channel. To the forward portion of the said pawl 23 is rigidly fixed in any proper manner a suitable spring 26, whose free end bears against the adjacent wall of the said coin-channel and is adapted to normally support the said pawl in the position shown in Fig. 2, thereby limiting the forward rotation of the said disk 16 by a holding engagement with the said pawl 23. The disk 16 is also provided with a peripheral slot 27, approximately about midway of the slot 17 and the lug 22. The radius of that portion of the disk 16 between the slot 27 and lug 22 is somewhat reduced to enable it to pass the holding-pawl about to be described.

At a suitable point in the lower portion of the coin-channel and directly above the slide

13 is pivotally mounted the holding-pawl 28, having an upwardly-inclined finger 29, whose free end is adapted to normally rest idly in the slot 27, and having a horizontally-arranged finger 30, whose free end is provided with a pendent lug 31, adapted to arrest each coin and retain the same on its edge upon the slide 13, as shown by dotted lines in Fig. 2, from which the coin is normally permitted to escape by gravity into the box 6 or at the will of the central operator is delivered to the auxiliary coin-channel 11 in the manner herein-after described. On the front face of the said pawl 23 is arranged a screw-threaded lug 23' in register with a proper opening 26' in plate 2, adapted to admit a proper key, (not shown,) which by engagement with the said lug 23' enables the attendant to withdraw the said pawl from its engagement with the said disk 16 against the tension of the said spring 26 when it is desired to remove a lodged coin, check, or slug.

The means by which the operator at the central station controls the delivery of the coin to the channel 11, in which it is accessible to the patron, is shown in Sheet 2 and is described as follows: Referring now to Fig. 4, which is an enlarged view of the call-box broken away with the door thereof opened to show my improved mechanism in position upon the inner face thereof, the call-bell magnets 32 are suspended as usual from a proper hanger 33, having lateral ears 34, by which it is fixed to the call-box door 35 in the usual manner. The transmitter-diaphragm 36 is also fixed in position in any proper manner, as by the metal rings 37 and 38. The main-line wires 39, 40, 41, and 42 are connected up as usual with the transmitter and the call-bell, respectively. At a suitable point on the inner face of the door 35 are rigidly fixed the energizing-coils 43 and 44, having a pendent armature 45, to whose outer face is fixed a pendent lever-arm 46, of spring metal. This lever has its free end provided with a hook 47, adapted to engage the pin by which the coin-slide 13 is actuated. At a proper place in said door 35 are fixed in vertical alinement and with overlapping inner ends the spring-plates 48 and 49, Fig. 6. In a proper lateral opening in said door is loosely mounted the stem 50 of the push-button 51. The inner end of this stem is fixed in or otherwise secured to the spring 49 near its inner end. This spring 49 is so arranged that its free end is normally held by its own tension out of contact with the said spring 48, as shown in Fig. 6. In the inner face of the plate 2 of the coin-chute 1, near the lower end thereof, is arranged a slot 52, Fig. 2, which is of equal length with the slot 12 and coincident therewith. On the inner face of the plate 3 and in directly opposite arrangement is the coincident slot 53, Fig. 8. As these slots 52 and 53 are each of greater width than the thickness of the respective plates 2 and 3, the outer portions of these slots are in the respective oppo-



site lugs 54 and 55. In these coincident slots 52 and 53 the said slide 13 is loosely mounted. The slide 13 has a central longitudinal slot 56, Fig. 9, adapted to admit the arrested coin 20 to the channel 11 in the manner hereinafter described. To the inner edge of the slide 13, midway of its ends, is fixed the inner end of the pin 57, having upon its free end the fixed collars 58 and 59, with an intervening space in which the hook 47 of the arm 46 forms its engagement for the purpose of actuating the slide 13. This pin 57 is loosely mounted in a collar 60, which is fixed in a suitable opening in the call-box 68, as shown. To the back of the box 68 is rigidly fixed one end of a forwardly-projecting spring-arm 61, having upon its free end a lateral hook 62, adapted to holdingly engage the opposite edge of the arm 46, Fig. 7, when the door 35 is closed, thereby preventing any tampering with the interior mechanism, even were an intruder to pick the lock 66. When it is proper for an inspector to open the door 35 for any purpose, he calls central in the usual manner and then pushes in the button 51, after which the central operator throws on a stronger current in the manner hereinafter described, thereby energizing the said coils 43 and 44, by which the arm 46 will be withdrawn from its engagement with the arm 61, after which the door 35 can be opened. As this movement of the arm 46 will also withdraw the coin-slide 13 from its normal position, it should be returned to its normal position before closing the door 35 to enable the hook 47 to engage the pin 57 between the collars 58 and 59.

The operation and manner of employing my invention thus described are, briefly stated, as follows: When the patron desires to make a telephone call, he calls the central station in the usual manner; but before the receiver-hook 18 can be elevated to close the circuit in the usual manner the disk 16 must be rotated forward to the position shown in dotted outline in Fig. 2. This, however, can be done only by means of a coin or its equivalent. By dropping a proper coin—as, for example, a nickel 20—in the upper open end of the said coin-channel it will roll down by gravity and be received by the said recess 19 of the disk 16, Fig. 2. The coin 20 nearly fills the space between the vertical edge of the recess 19 and the adjacent edge of the said pawl 23, whereby the force of the retracting-spring, (not shown,) by which the said hook 18 automatically assumes the position shown in Fig. 2, will force the lug 21 forward into contact with the upper portion of the said pawl 23, thereby forcing the free end of said pawl forward against the tension of the said spring 26, as shown in dotted outline in Fig. 2. The lug 22 is normally slightly out of contact with the lower end of the said pawl, as shown, whereby a sufficient forward movement of the disk 16 to enable the lug 22 to engage ordinarily the lower end of the pawl 23 will,

when the coin 20 is in position in the recess 19, force the said pawl forward, thereby enabling the lug 22 to pass the said pawl without any contact therewith, after which the said coin will freely pass by gravity downward between the said disk and the said pawl to the lower portion of the said coin-channel 5, where it will be again arrested in the following manner: When the disk 16 is rotated forwardly, as described, to the position shown in dotted outline in Fig. 2, it will readily pass the free end of the finger 29 until the said end of the finger 29 is engaged by the lug 22, by which engagement the pawl 28 will be firmly held in the position shown in dotted outline, in which position the lug 31 of the arm 30 will project into the path of the coin and which will thus arrest and detain the same in the position shown in dotted lines and upon the slide 13. The coin 20 will remain in this position while the patron is using the telephone or until he hangs the receiver upon its hook 18, which action rotates the disk 16 back to its normal position, thereby forcing the pawl 28 back to its normal position by the engagement of the finger 29 with the slot 27, thus elevating the lug 31 from the path of the coin, which is now free to descend by gravity into the toll-box 6 through the slot 9. Before the patron hangs up the receiver and while the coin 20 is detained upon the slide 13, as described, in case he is notified by the central operator that the line is busy or for other reason fails to get service, the operator instructs him to push in the button 51, thereby making an electrical connection between the plates 48 and 49. These plates are in circuit with the coils 43 and 44 and are electrically connected with the main line by means of the wires 63, 64, and 65. The central operator now throws a stronger current into the main line by means of an additional battery at the central station, (not shown in the drawings,) thereby energizing the coils 43 and 44 sufficiently to actuate the arm 46, whose lower end is engaged with the pin 57 between the collars 58 and 59. This action of the arm 46 withdraws the slide 13 from its normal position shown in Fig. 2 and in dotted lines in Fig. 8 to the position shown in full lines in Fig. 8, thereby making the slot 56 therein register with the coin-channel 5, which will permit the arrested coin supported on said slide to drop into the channel 11, where it is accessible to the patron and can readily be removed therefrom. The patron now releases the button 51, after which the spring-plate 49 will by its tension resume its normal position out of contact with the plate 48. He then hangs up the receiver on the hook 18, whose weight will force the hook down, thereby restoring the operating mechanism to its normal position.

Having thus described my invention and the manner of employing the same, what I desire to secure by Letters Patent is—

1. In a coin-controlled telephone a coin-



chute having a longitudinal coin-channel provided at its lower end with two discharge-openings one of which is controlled by an adjustable slide; a coin-arresting disk rotatably  
 5 mounted in the said chute in coöperative relation with an actuating receiver-hook; a receiver-hook engaging said disk and adapted to automatically actuate the same when the receiver is removed therefrom; means for limiting  
 10 the forward movement of the said disk against the stress of the said hook; an adjustable slide closing one of the discharge-openings of said chute; means for arresting the coin upon the said slide; and means for  
 15 withdrawing said slide from the path of the descending coin.

2. A coin-chute having two discharge-openings one of which is normally closed; a coin-arresting disk revolubly mounted in said  
 20 chute in coöperative relation with an actuating receiver-hook; a receiver-hook engaging said disk and adapted to automatically actuate the same when the receiver is removed therefrom; means for limiting the forward  
 25 movement of the said disk against the stress of the said hook; means for again arresting the said coin at or near its point of discharge; means for normally closing one of said discharge-openings; and means for enabling the  
 30 telephone operator to open said closed opening for the purpose described.

3. In a coin-chute having a vertically-disposed coin-channel provided with two independent outlet-ports, a laterally-adjustable  
 35 slide arranged in said chute to normally close one of said ports, and having a vertical slot adapted to register with the coin-channel; movable means independent of said slide for normally arresting the coin upon the said  
 40 slide; and means for actuating the said slide under the control of the central operator for the purpose described.

4. In a device of the class specified a coin-arresting disk revolubly mounted in a coin-chute having a peripheral coin-arresting recess and a pair of peripheral lugs as described;  
 45 a receiver-hook arranged in an actuating engagement with the said disk; a spring-pressed pawl mounted in said chute in a coöperative relation with the said disk as described; and  
 50 means for withdrawing the said pawl from its holding engagement with the said disk consisting of a screw-threaded lug on the rear face of said pawl and a key adapted to fit the  
 55 same.

Signed by me at Fort Wayne, Allen county, State of Indiana, this 1st day of October, A. D. 1901.

SYLVESTER P. GREY.

Witnesses:

ADELAIDE KEARNS,  
 LULU BULMAHN.