

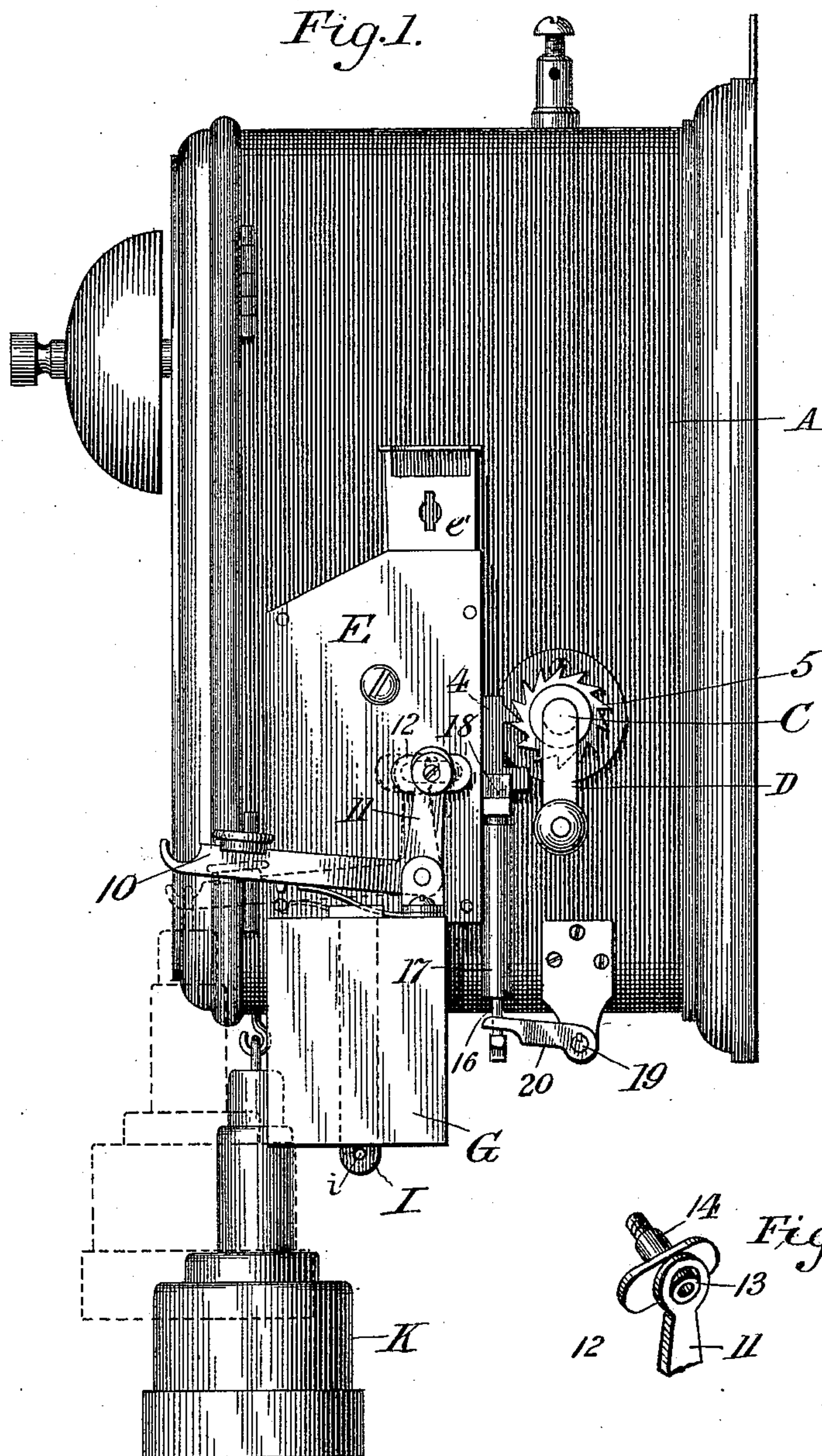
(No Model.)

2 Sheets—Sheet 1.

P. COOKE & J. L. HARLEY.
COIN CONTROLLED LOCK FOR TELEPHONES.

No. 525,094.

Patented Aug. 28, 1894.



Witnesses:

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

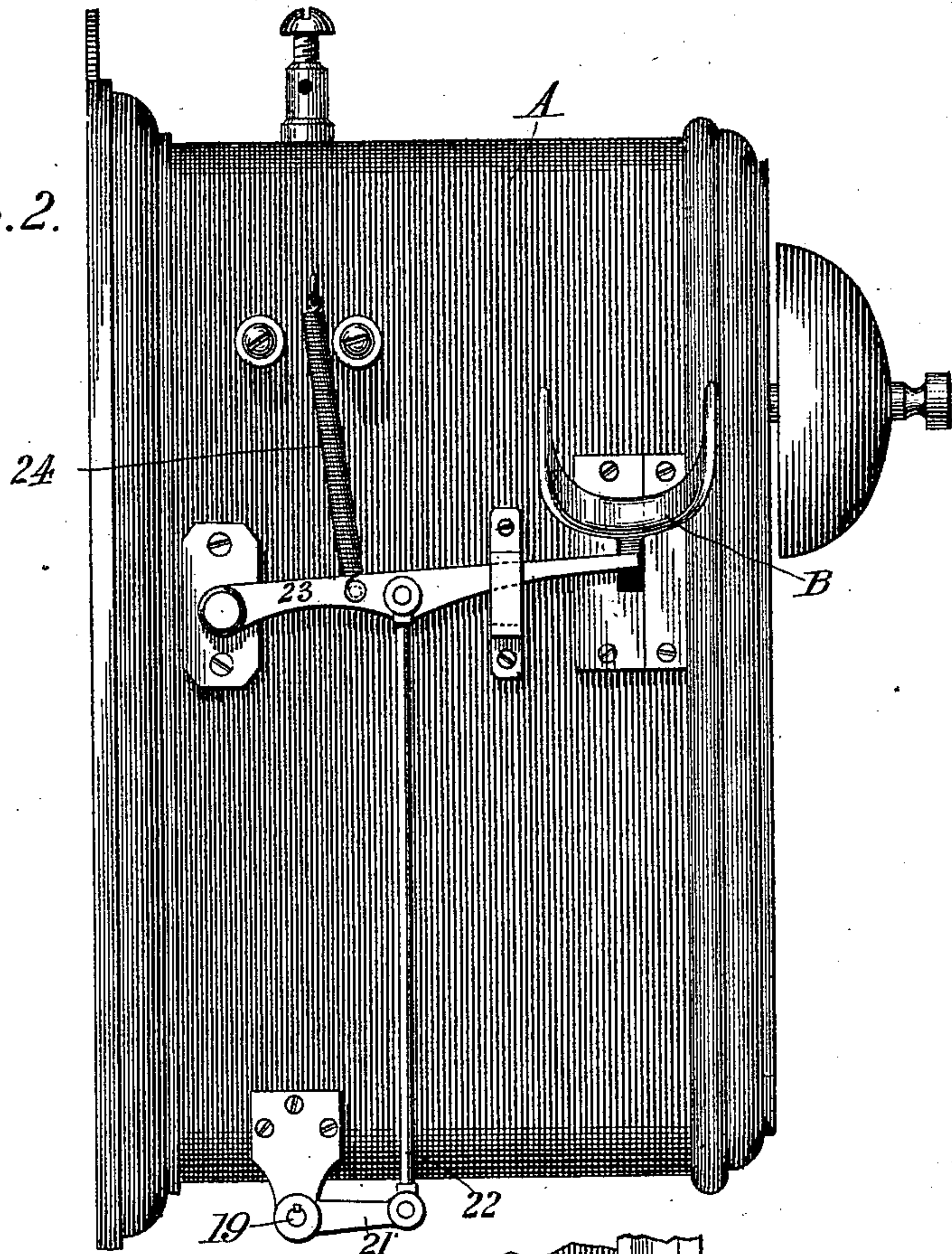


Fig. 4.

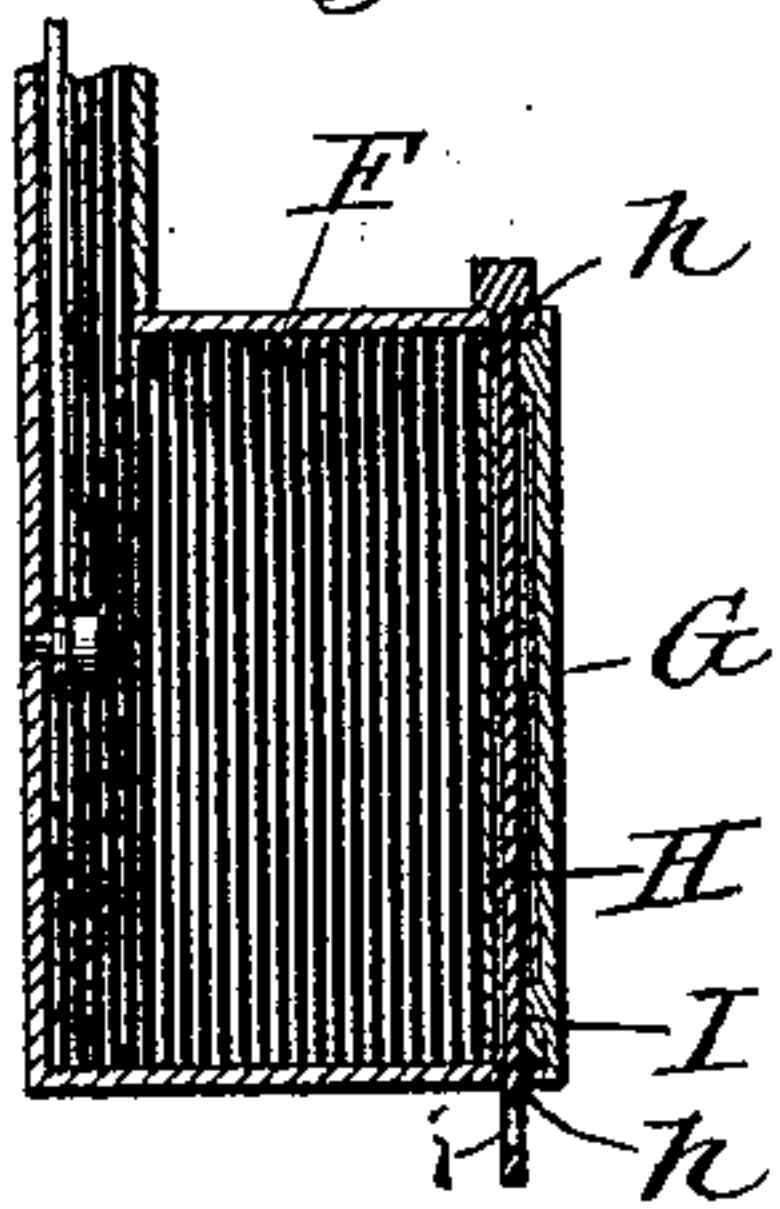
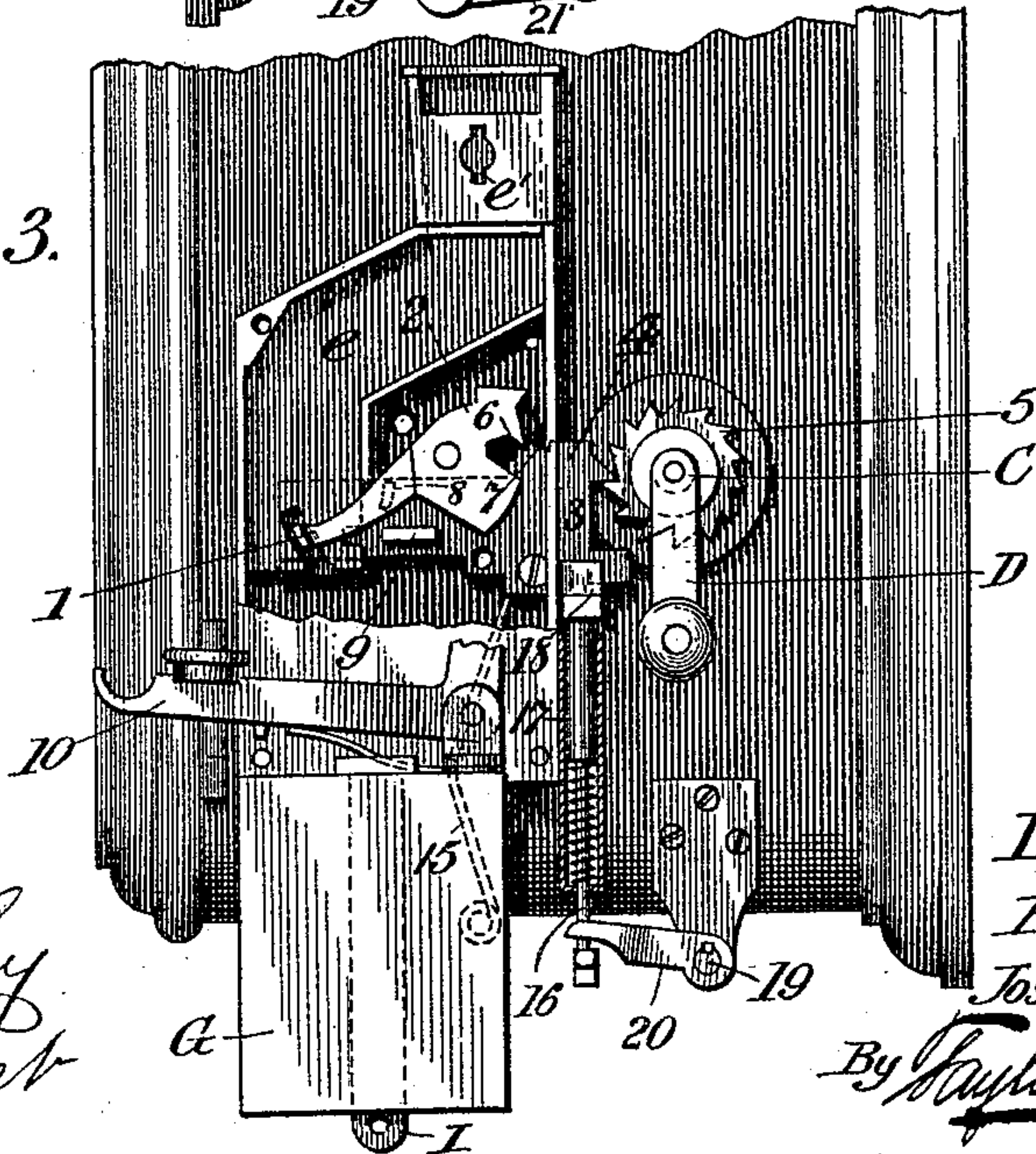


Fig. 3.



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UNITED STATES PATENT OFFICE.

PITT COOKE AND JOSEPH L. HARLEY, OF WASHINGTON, DISTRICT OF COLUMBIA.

COIN-CONTROLLED LOCK FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 525,094, dated August 28, 1894.

Application filed January 30, 1894. Serial No. 498,500. (No model.)

To all whom it may concern:

Be it known that we, PITT COOKE and JOSEPH L. HARLEY, citizens of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Coin-Controlled Locks for Telephones; and we do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to certain new and useful improvements in coin-controlled locks for telephones, and is designed to provide an attachment whereby the dynamo shaft of the telephone is normally locked so that it cannot be turned until released by the use of a coin, as hereinafter shown and described.

In the accompanying drawings Figure 1 is a side view of the telephone box with the coin controlled lock attached in position. Fig. 2 shows the switch lever side of the telephone box with the mechanism by which the movement of the switch lever is communicated to the other side of the box to secure or release the coin lock. Fig. 3 shows the coin controlled lock in position upon the dynamo shaft side of the telephone box, and also gives a vertical sectional view of the lock mechanism. Fig. 4 is a sectional side view of the coin box; and Fig. 5 is a detail view showing the cross-head 13 which connects the bolt of the lock with the operating lever.

Referring to the accompanying drawings, A indicates a telephone transmitter box such as is now generally used, having projecting from one side the forked end B of the automatic switch upon which the receiver or hand phone is hung in order by its weight to depress and open the transmitting and receiving circuits of the telephone, and having projecting from the other side the outer end C of the shaft of the magnetic dynamo provided with the usual crank handle D whereby the shaft may be revolved in order to call up the other end of the circuit.

In the patent heretofore issued to said Pitt

Cooke on the 23d day of May, 1893, United States Patent No. 497,907, the object of the invention is to lock the telephone switch upon which the receiver is hung so that the circuit cannot be closed and speech transmitted or received, unless the locking device is released either by a key or a coin.

In the present improvement the object of the invention is to normally lock the dynamo shaft so that the other end of the line, or central office, cannot be called up for the purpose of transmitting a message, unless a coin of a certain size and weight is used to release the locking device, and it will be seen from the following description that this device will not prevent the "calling up" of the instrument upon which it is placed, nor will it prevent the using of receiver or transmitter when so called up, unless it is desired to so adjust the locking device as to prevent such use.

In the present invention the coin controlled locking mechanism is contained within a casing preferably constructed as shown in the drawings; the upper part E being shallow and adapted to contain the lock mechanism, and the lower part F being somewhat deeper and adapted to serve as a coin safe, and being closed at the front by a removable lid or door G. Said lid G is formed as shown in Fig. 4 being adapted to fit within and against the front of said coin safe F, and having upon its inner side a sheath H, preferably vertical, adapted to receive the retaining pin I, the upper and lower sides of the coin safe F being provided with corresponding slots *h, h*, so that when the lid G is put in place upon the front of the safe the shank of the retaining pin I, may be passed through said slots and casing and hold the lid firmly in position. The retaining pin I is made of such length that the point or lower end will project from the safe and this projecting end is provided with a hole *i* adapted to receive the hasp of a padlock, so that when this is locked it will not be possible to withdraw the pin I, or to remove the lid G. Within the upper part E of said casing is provided an inclined coin chute *e*, provided at the top with a suitable coin receiver or chimney *e'*, and opening at the bottom upon

the end of the monkey tail or rearwardly-extending arm 1 of the gravity pawl 2, which engages with the slide or bolt 3. The end of this bolt 3 projecting through the casing E is
 5 forked, and the upper arm 4 of the fork is adapted to engage with a ratchet wheel 5 mounted upon the shaft C of the dynamo, outside of the telephone box A, the said casing being attached to the side of the tele-
 10 phone-box A in such manner that when the bolt 3 is locked the upper fork 4 will fully engage with the ratchet wheel 5, and prevent the turning of the dynamo shaft C.

The upper edge of the bolt 3 is provided
 15 with two notches, 6, 7 (or more may be used if deemed desirable) adapted to be engaged by the pawl 2.

Upon the monkey tail 1 of the pawl 2, is provided a pin or lug 8, adapted to strike
 20 upon an elongated projection or lug 9 upon the rear end of the bolt 3.

Upon the top of the coin-safe F is pivoted a bell crank lever having its horizontal arm 10 projecting a little beyond the face of the
 25 telephone box A, said arm being provided near its outer end with a suitable finger button, and having its extremity formed in the shape of a hook.

The vertical arm 11 of the bell crank lever
 30 is provided at its upper end with a hole or slot so that it may be pivotally mounted upon the outwardly projecting stud pin 13 of the cross-head or cross-bar 12. This cross-bar 12 is preferably of the shape shown in Fig. 5,
 35 having the outwardly projecting stud pin 13, and also an inwardly projecting stud pin 14, which is adapted to pass through a suitable horizontal slot in the front face of the casing E, the end of the stud pin 14 being
 40 threaded and adapted to enter a corresponding threaded hole in the bolt 3, thereby connecting the bolt with the vertical arm 11 of the bell crank lever.

It will be observed from Fig. 3 of the draw-
 45 ings that when the controller is locked, the upper fork arm, 4, of the bolt, 3, fully entering between the teeth of the ratchet wheel 5, the pawl 2, will engage the inner notch 6, upon the upper end of the bolt. Now if a coin enter-
 50 ing the chute *e* drops upon the end of the monkey tail 1, the latter will be depressed until the lug 8 rests upon the lug 9; this depression being sufficient to release the pawl 2 from the notch 6, but not being sufficient
 55 to allow the coin to escape off of the end of the monkey tail. The bolt 3, is now in position to be unlocked, and by depressing the lever arm 10, the lever arm 11, being pivotally secured to the bolt 3, will draw back the lat-
 60 ter until the fork arm 4, is out of engagement with the ratchet wheel 5, allowing the crank D to be turned in order to call up the connecting telephone. The lug 8 and lug 9 are so arranged that while the bolt 3, is being re-
 65 tracted, the former will rest upon the latter until the pawl 2, is past the second notch 7,

on the bolt, but when the bolt has been re-
 tracted so far as to take said lugs out of con-
 tact, the weight of the coin upon the end of
 the monkey-tail 1 will depress the latter suffi- 70
 cient to allow the coin to roll off into the coin
 safe F, and being then relieved of the weight
 of the coin the pawl 2 will rest upon the up-
 per edge of the bolt 3. If the pressure on the
 lever arm 10 is now released the spring 15 75
 will immediately press the bolt outwardly so
 as to again engage with the ratchet wheel,
 and the pawl will engage with the bolt, so
 that the machine will be locked again. In
 order to retain the machine in the unlocked 80
 position, a weight K, may be hung upon the
 hooked end of the lever 10, a hook being pro-
 vided on the bottom of the telephone box
 upon which to hang the weight when not in
 use. We think it preferable however to re- 85
 tain the bolt in the unlocked position or to
 release it therefrom by the use of the receiver
 or hand phone, and to accomplish this, a ver-
 tical plunger 16, is placed below the lower
 fork end of the slide 3, said plunger being 90
 spring-seated within a small sleeve-casing se-
 cured to the side of the coin lock casing, the
 plunger extending below said sleeve casing
 and being provided at its lower end with a
 cross head or collar. The lower fork end of 95
 the bolt 3 is provided on its lower edge with
 a notch 18, adapted to receive the head of the
 plunger 16 when the bolt is retracted far
 enough to release the ratchet wheel 5.

Under the telephone box a shaft 19 extend- 100
 ing from side to side of the box is mounted in
 suitable brackets secured to said box, one end
 of the shaft bearing a crank arm 20 with a
 forked end adapted to straddle the lower end
 of the plunger 16 and the other end of the 105
 shaft being a crank arm 21 pivotally connected
 by the rod 22 with the lever 23, the latter be-
 ing pivotally secured to the telephone box in
 such position that its outer end will always be
 under the telephone switch lever B and may 110
 be put in contact with said switch lever
 whether the receiving circuit is open or closed.
 The connections between the lever 23 and the
 plunger 16 are so adjusted that if the slide 3
 is retracted the plunger will not rise and en- 115
 gage in the notch 18 to hold the slide back
 unless the telephone receiver or hand phone
 is removed, the weight of the hand phone op-
 erating to depress the lever 23 and the forked
 end of the crank arm 20 and hold down the 120
 plunger 16.

In order to use the above described inven-
 tion, the various parts being constructed and
 attached to the telephone box as specified, a
 coin of proper size and weight is inserted 125
 through the chimney into the coin-chute *e*
 and falling upon the monkey tail 1 depresses
 the latter and carries the pawl 2 out of the
 notch 6 in the upper edge of the bolt 3. The
 bolt is then retracted by pushing down the 130
 horizontal lever arm 10, and the ratchet wheel
 5 being then disengaged the crank D may be

turned to call up the other end of the telephone line. It is apparent that while the crank D is being turned the lever arm 10 must be held down to keep the bolt from engaging with the ratchet wheel, and that if the pressure on the lever arm is removed the bolt will move forward and be locked so that the crank cannot be turned. To prevent this relocking the hand phone is removed from the telephone switch, and the outer end of the lever 23 will then be pulled up by the spring 24, and the connecting rod 22 pulling up the outer end of the crank arm 21 will turn the shaft 19, elevating the forked end of the crank arm 20 sufficiently to allow the plunger 16 to rise and engage in the notch 18 in the under edge of the bolt 3, so as to retain the bolt in its retracted position.

After using the telephone the hanging up of the hand phone will force down the lever 23 and the head of the plunger 16 will be drawn out of the notch 18, allowing the bolt 3 to move forward so as to engage the ratchet wheel 5.

It may sometimes happen that when the bolt is released to lock the machine the ratchet wheel will be in such position that the end of the fork arm 4 of the bolt will catch upon the edge of one of the ratchet teeth instead of fully entering between two of said teeth; but if this should occur the bolt will be in such position that the pawl 2 will engage in the second notch 7 in the upper edge of the bolt 3 and prevent the retraction of the latter to release the ratchet wheel, and if an attempt is made to turn the ratchet wheel the bolt will immediately spring forward, the pawl will be carried out of the notch 7 and fall into the rear notch 6, and the machine will be locked in its normal position. When the machine is unlocked by a coin the notch 7 will not interfere with the full retraction of the bolt, because the weight of the coin lifting the pawl out of the rear notch 6 will hold it up until the notch 7 has passed it.

It is obvious that the above described mechanism will not at all interfere with the use of the telephone for receiving or answering messages: it is designed and intended solely to prevent the unauthorized calling up of the central office and sending of messages without having paid for the privilege.

In the patent No. 497,907 hereinbefore referred to, the gravity-pawl and bolt are of such construction that either a key or a coin may be used to unlock the machine, and if desired a similar construction might be used in the present invention.

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

1. The combination with the rotary shaft of a telephone, of a toothed wheel mounted upon said shaft, a coin controlled lock having a longitudinally sliding bolt the outer end

of which is adapted to engage said toothed wheel, a pawl for locking said bolt, and a lever for disengaging the bolt and wheel after bolt is released from engagement with its locking pawl, substantially as described. 70

2. In a coin-controlled lock for telephones, the combination with a sliding bolt of a bell crank lever fulcrumed below said bolt and having a pivotal connection therewith, the long arm of said lever projecting beyond the lock casing, and terminating in a bend or hook, substantially as described. 75

3. In a coin-controlled lock for telephones, the combination with a sliding bolt, of a locking pawl adapted to be tripped by the weight of a coin, and a bell-crank lever fulcrumed below the bolt, and pivotally secured thereto, the long arm of said lever projecting beyond the lock casing and provided with a finger-piece and hook, substantially as described. 85

4. In a coin-controlled lock for telephones, the combination with a sliding bolt forked at its outer end, and provided with two or more notches in its upper edge, of a locking pawl adapted to engage said notches, and to be tripped by a falling coin, a bell-crank lever fulcrumed below said bolt, and having a hooked outer end, and a coupling device for pivotally securing the bell-crank lever to said bolt, consisting of a cross-head having projecting studs or pins, substantially as described. 90 95

5. In a coin-controlled lock for telephones, the combination with a toothed wheel mounted upon the rotary shaft of the telephone, of a sliding bolt forked at its outer end to engage said wheel, and provided with an elongated laterally projecting lug, adjacent to its inner end, a locking pawl adapted to engage notches formed in said bolt, and provided with a monkey-tail extension adapted to be tripped by a falling coin, and with a lateral lug and a bell crank lever fulcrumed below the bolt and pivotally secured thereto, substantially as described. 100 105 110

6. The combination in a coin-controlled lock, of a toothed wheel mounted upon the rotary shaft of a telephone, a sliding bolt forked to engage said wheel, and notched to receive a locking plunger, a locking pawl adapted to engage notches formed in the upper edge of the bolt, a bell crank lever for sliding said bolt, and means for operating said plunger, substantially as described. 115

7. The combination with a telephone box, of a lever pivoted at one end upon the side of said box so that its outer end will project under the telephone switch, a rod connecting said lever with the outer end of a crank arm mounted on one end of a shaft extending from side to side of the box, a crank arm mounted on the other end of said shaft and having a forked outer end adapted to straddle the lower end of a plunger catch, and a lock having a bolt provided with a notch 120 125 130

adapted to receive the head of said plunger when the bolt is drawn back, substantially as described.

8. The combination with a coin controlled
5 lock, of a coin-box having a removable lid provided with a sheath upon its back or interior face, each of two opposite sides of said box being provided with a hole or slot so located as to correspond with the hole in said
10 sheath when the lid is in place on the box, and a pin or sword having its shank adapted

to pass through said holes in the box and through said sheath so as to retain the lid in place, substantially as described.

In testimony whereof we affix our signatures 15
in presence of two witnesses.

PITT COOKE.
JOS. L. HARLEY.

Witnesses:

JAS. B. LACKEY,
GEO. C. PAYNE.