

G. POORE.

COIN CONTROLLED TELEGRAPHIC CALL APPARATUS.

No. 506,132.

Patented Oct. 3, 1893.

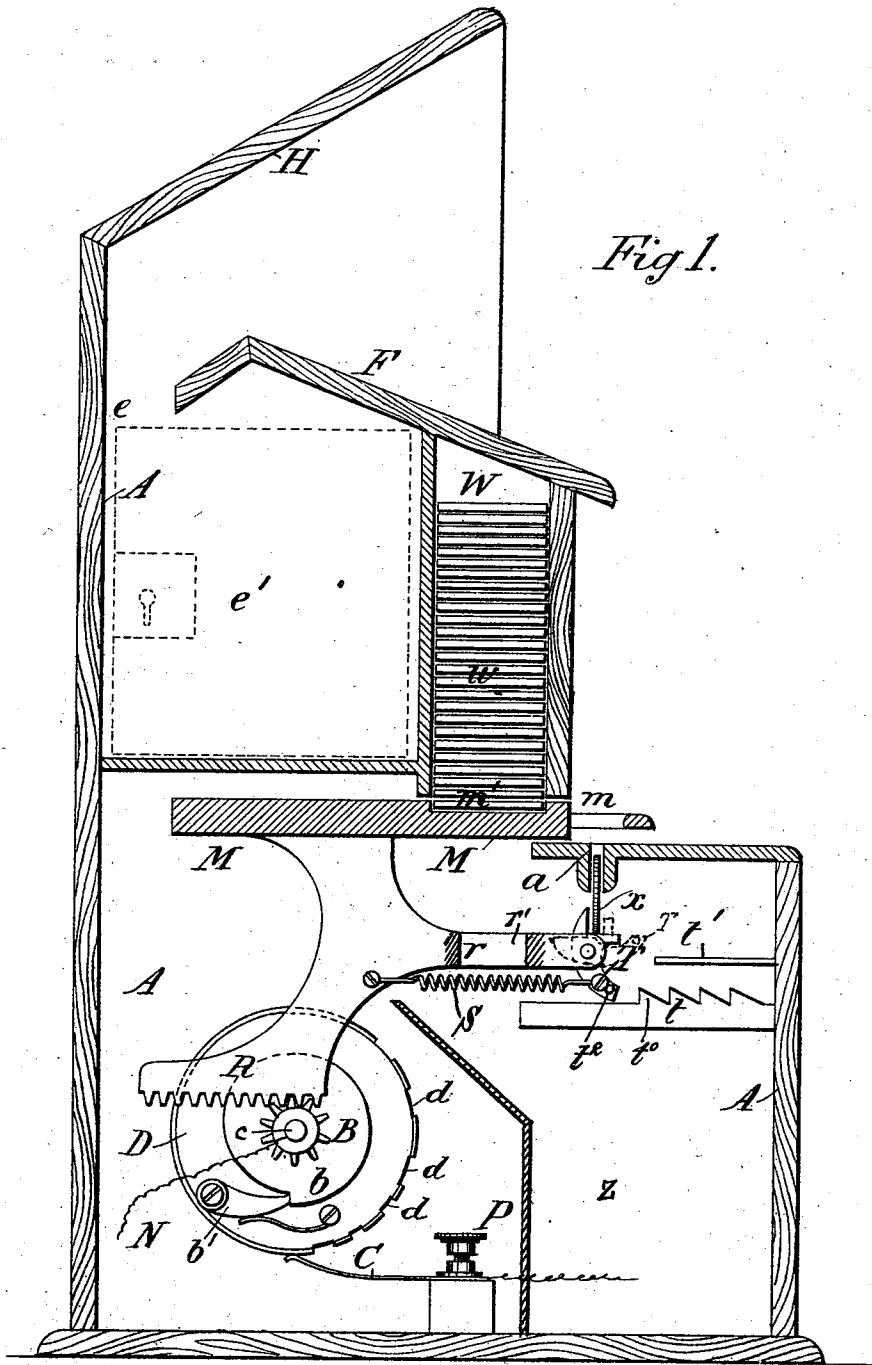


Fig. 1.

Witnesses:
 J. A. Rutledge
 Robert Smith

Inventor:
 Gaydon Poore
 By James L. Norris,
 Attorney

UNITED STATES PATENT OFFICE.

GRAYDON POORE, OF PUTNEY, ENGLAND.

COIN-CONTROLLED TELEGRAPHIC CALL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 506,132, dated October 3, 1893.

Application filed March 29, 1892. Serial No. 426,897. (No model.) Patented in England May 8, 1891, No. 7,954.

To all whom it may concern:

Be it known that I, GRAYDON POORE, a subject of the Queen of Great Britain, residing at 33 Oak Hill Road, Putney, in the county of Surrey, England, have invented certain new and useful Improvements in Coin-Controlled Telegraphic Call Apparatus, (for which I have obtained Letters Patent in Great Britain, No. 7,954, dated May 8, 1891,) of which the following is a full, clear, and exact specification.

This invention relates to telegraphic call apparatus and has for its object to render such apparatus more convenient, rapid, and practically useful to the public in whatsoever capacity it may be employed.

According to my improvements I construct my apparatus so that by the insertion of a proper coin, or equivalent, an operator can telegraphically transmit a predetermined signal (for example, to procure a messenger) from any one of a number of stations on the same electric circuit to another station, for example, from a call station to a central station. The mechanism I adopt may consist of any suitable type of electric telegraph call apparatus to which I apply or with which I combine a locking appliance of suitable kind freed by the action of a coin and adapted when so freed to operate, or allow to be operated, directly or indirectly, the transmitting mechanism and to telegraphically transmit, or allow to be transmitted, any given predetermined signal. With such a coin-freed electric call apparatus I may combine any suitable appliance for delivery by the action of the coin, or equivalent, of writing materials or other goods previously stored in the apparatus in which case I make provision for the reception and security of the written message. By these means an operator can either simply call a messenger to the call station or he may both call and obtain materials whereupon to write his message if desired, and leave the written message for the attention of the messenger answering the call.

The invention consists in the combination or arrangement of parts and the features of construction hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a vertical, sectional view of an electric telegraph call apparatus embodying

my invention, and adapted for the delivery of writing materials, and Fig. 2 is a sectional elevation of a telegraph signal apparatus adapted to prevent the signals of different instruments on the same electric circuit from interfering with one another. Fig. 3 is a section on line X Y of Fig. 2. Fig. 3^a is a detail view, and Fig. 4 is a vertical section on line Y Z of Fig. 3.

In the telegraph call apparatus illustrated in Fig. 1, D is a rotary disk loose on its axle c, and suitably mounted, the rim of which is in frictional contact with a fixed electrical contact C in connection with the line wire at P. The other wire, a return conductor N, may be carried from the axle as shown, or from any suitable part of the mechanism. In the rim of the disk D are provided a number of points or spaces *d d* of predetermined lengths, which on revolution of the disk will make or break the circuit for periods corresponding to their lengths.

B is a pinion fast on a pawl wheel *b*, and *b'* is a pawl mounted on the disk D. Engaging the pinion B is a rack R fixed to and receiving motion from a slide M provided with a handle *m*, and the whole is inclosed in a case A.

The locking appliance is illustrated as consisting of the tumbler T centered on the end of a bar or extension *r* fixed to the rack R and this tumbler T is normally pulled backward, in the position illustrated by a spring S. On the side of the tumbler T is a pin *t* projecting at right angles.

t is a rack whose first tooth *t*⁰ normally locks back the tumbler T.

t' is a shelf for clearing the tumbler T from rack *t* as hereinafter explained.

a is the money slot and *x* an inserted coin.

r' is a slot formed transversely in the bar *r* the full width of the coin and Z is the money receiver.

The appliance for storing writing materials consists of a vertical compartment W, and *w* are the contained cards or other materials, the lowest of which rests in a recess *m'* in the slide M.

F is a desk provided for the purpose of writing the message, *e* the posting slot, *e'* a locked receptacle, and the whole is inclosed in the frame or casing A, to which may be added for convenience the hood H.

Such being one apparatus for our purpose, the operation is as follows: To transmit a signal simply calling a messenger, the operator inserts the proper coin, or equivalent, at the slot a and pulls the slide M by its handle m . The inserted coin a then engages the head of the tumbler T so that further motion of the slide M serves to raise the tumbler to the position shown in dotted lines and when its foot is clear of the teeth of the rack t the slide M may be fully drawn out, the engagement of the lateral pin t^2 with the shelf t' preventing the tumbler T from re-engaging the rack. The outward movement of the slide M withdraws the rack R , thereby rotating the pinion B and pawl wheel b . The pawl b' then drives the disk D through one revolution and in so doing causes the points or spaces $d d$ to pass over the fixed contact C and so to alternately break and complete the otherwise uninterrupted current running around the electric circuit $P N$. The special characteristics of the points or spaces $d d$ constitute and form the predetermined signal, and are denoted and recorded by any suitable receiving instrument at the receiving station whence a messenger will be dispatched to the particular call apparatus thus identified.

In an apparatus such as is illustrated where writing materials are provided, to avoid detaining the operator until the arrival of the messenger, the person using the apparatus may take the writing materials lying upon the slide, and write and deposit his message in the locked receptacle e' , and the messenger on arrival will unlock said receptacle and obtain the written message for delivery.

In further illustration of the means for effecting my novel purpose I have shown in Figs. 2, 3 and 4, a well known telegraph signaling apparatus which also, by stored power, is intended to prevent the signals of different instruments on the same electric circuit interfering with one another, and with this is combined a known apparatus for coin freed machines, but here no slide or storage appliance is combined.

The same reference letters are retained as far as possible to indicate the parts analogous to those above described.

In the above combination the transmitting apparatus consists of the contact wheel D with notches $d d$, as before, against which rubs the contact spring C , connected to one wire P of the line.

M^2 is the handle and winding lever which is mounted on a sleeve m^2 loose on the main axis c . The sleeve m^2 has a stop o , Figs. 3 and 3^a, which, when it is turned forward, engages a pin p on a boss p' fixed upon the axis c , and thus the axis, also, is turned and so serves to wind up an ordinary clockwork train V operated by an ordinary clock spring u' . The clockwork train is provided with an escapement E having a central drop arm E' .

In Figs. 3 and 3^a, C' is a coiled spring applied to the sleeve m^2 of the handle M^2 , being

supported by a projection c^2 , upon the frame of the machine. This spring C' causes the sleeve and handle to return to normal position immediately the train V has been wound, whether it commences to run down at once or otherwise. The handle M^2 , when out of use, rests against a stop G and thus makes an electric contact the purpose of which will be hereinafter described.

K is an electro-magnet which, by means of an armature k having attached thereto a long lever k^2 provided with a light spring k' at one end and with a pawl or stop k^3 at its other end, locks the clockwork train V , the said pawl or stop k^3 coming directly into contact with the drop arm E' of the escapement E .

S is a small electro magnet between the poles of which a small permanent magnet s is able to move, being pivoted at one end. The other end of the magnet s plays between two adjusting screws s' with one of which it makes an electric contact, the object of which is hereinafter stated. The pieces which carry the adjusting screws are insulated from the frame of the instrument.

L is the coin lever carrying the arm T^2 engaging in the cam wheel Q . The cam lever L is suitably centered at l and carries at its shorter end a counterweight W , and at its other end the coin bucket Z , normally lying beneath the money slot a .

l' is an arm projecting from the lever L as shown. The bucket Z has a tumbling part centered at z' and having a finger z^2 loose on the same axis as the tumbler.

z^3 is a pin fixed to the tumbler, and z^4 is a stop fixed to the casing.

The electric connections of the instrument are as follows: The battery current from the receiving station passes by the wire N first to the small electro magnet S from the coils of which it passes through those of the magnet K and so to the insulated stop G , whence, when the handle M^2 is in contact as shown, it passes thereby through the frame of the instrument to the contact wheel D and onward through the contact spring C to the line P leading to other instruments in the circuit beyond.

The permanent magnet s is connected between the two electro magnets S, S , and one of the screw stops s' , against which it can rest is connected with the stop G against which the lever M^2 normally rests. The receiving instrument is one of the ordinary Morse type arranged to start on any break in the continuity of the circuit, and when started to reverse the direction of the current through the line; at the end of its run it again restores the normal direction of the current.

The operation of sending a signal is as follows:—The weight of the coin or equivalent inserted through the slot a and falling into the bucket Z serves to depress the same and the lever L and lift the weight W into the dotted positions shown, thereby removing the arm T^2 from engagement with the stop in the

cam wheel Q and bringing the arm *l'* into contact with the periphery thereof. The cam wheel Q is now free to be operated by the handle *M*²; this serves to transmit the message if the line is clear or if engaged, to store power in the clockwork train V for use when the line is clear. During the forward stroke of the handle *M*², the cam part of cam wheel Q pushes back the arm *l'* of lever L sufficiently far to bring the pin *z*² of the tumbling part *z* of bucket Z against the fixed top *z*⁴ which depressing the same, raises the tumbler and the coin falls out and by the action of the weight W all the parts are now returned to normal locked positions. The movement of the handle *M*² breaks the continuity of the circuit and so causes the instrument at the receiving station to start into motion simultaneously with the clock train V. The receiving instrument almost immediately reverses the direction of the battery current, causing the small magnets *s* of all the instruments in the circuit to move over from one stop *s'* to the other; this short circuits all the electro magnets K as also the handles *M*² and locks all the clock-work trains except that at the transmitting station, because this has already commenced to run. The rotation of the contact wheel D produces breaks in the circuit which are duly recorded at the receiving station; the receiving instrument having run its appointed time and received the signal, stops and immediately before doing so it again reverses the current; the magnets *s* at all the sending stations then fall over to their other stops *s'* and every thing is in the same state as at the commencement. If any attempt has been made to signal from any station which had previously been stopped, the call will now be delivered, the electro magnet K being again excited so as to draw forward the lever pawls or stops *l*².

I wish it to be understood that I do not confine myself to the use of the forms of apparatus shown in the drawings, or to any particular or special form or forms of apparatus, as any kind of type of the same may be substituted and employed which will produce the same or an analogous result; for example a slide may be dispensed with and the weight of the coin acting on a lever may be utilized directly to make and break contact and transmit the signal in any known manner; or the simple act of pushing the coin through the slot may operate adjacently disposed levers serving the same purpose; or the coin may serve to release previously wound clockwork adapted to drive a message disk such as D or an equivalent device.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, what I claim is—

The combination of an electric telegraph call and transmitting apparatus, coin freed locking mechanism adapted to release said telegraph call and transmitting apparatus and permit it to transmit telegraphically a predetermined call or signal from one point to another in the same electric circuit, and clockwork mechanism actuated from the released telegraph call and transmitting apparatus to store power for use in subsequently transmitting a call when the line is clear and prevent the signals of different instruments on the same electric circuit from interfering with one another, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

GRAYDON POORE.

Witnesses:

JOSEPH C. CHAPMAN,
T. F. BARNES.