

No. 704,127.

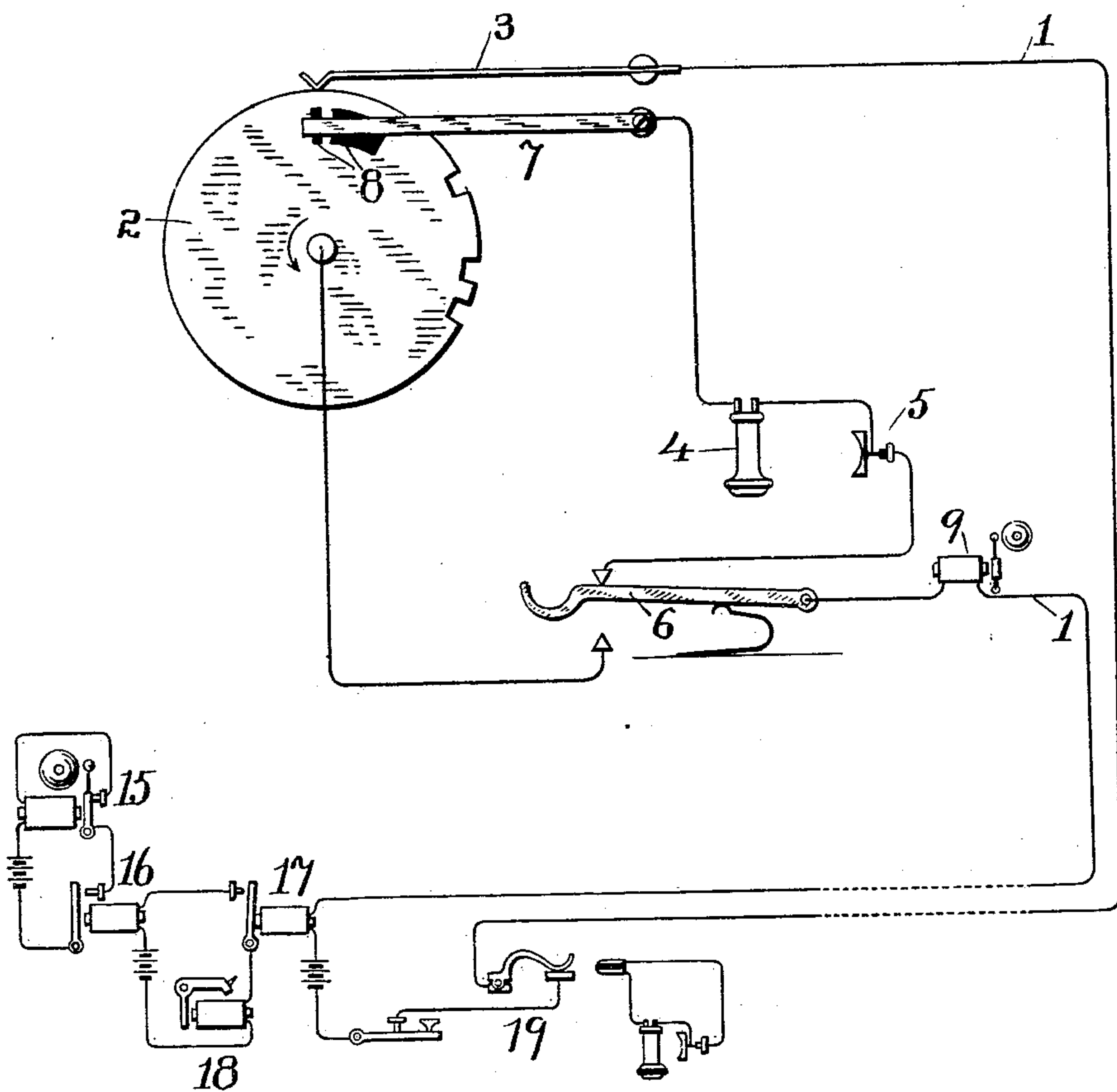
Patented July 8, 1902.

C. SELDEN.

COMBINED DISTRICT TELEGRAPH AND TELEPHONE SIGNAL.

(Application filed Jan. 25, 1902.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## COMBINED DISTRICT TELEGRAPH AND TELEPHONE SIGNAL.

SPECIFICATION forming part of Letters Patent No. 704,127, dated July 8, 1902.

Application filed January 25, 1902. Serial No. 91,161. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES SELDEN, a citizen of the United States, and a resident of Baltimore, in the State of Maryland, have invented a certain new and useful Combined District Telegraph and Telephone System, of which the following is a specification.

My invention relates to those systems wherein telephone apparatus is employed upon a district-telegraph circuit to permit the district-telegraph subscriber to communicate orally with the district-telegraph central office.

My invention relates to those systems wherein the use of special devices for calling up the central office when the telephone is to be used are dispensed with by combining with the district-telegraph box suitable signaling devices which are thrown into and out of operative connection with the circuit by the operation of a suitable switch, preferably the usual telephone-switch, so that when the subscriber pulls the box a distinctive signal will go to the central office, which will inform the attendant there that oral communication is desired.

The special object of my present invention is to produce a peculiar character of such additional or distinctive signal, so that the central-office attendant may immediately be informed by an audible sign that telephone communication is desired and may immediately reply without examining the record of the received signal and without paying any special attention to the particular sequence or succession of the usual short signals sent by the district box and which, as is well known, differ simply in their number to produce distinctive signals.

In carrying out my invention I employ at the central office an audible signaling device which differs from that usually employed in that it enables the ear of the attendant to take note of differences in the duration of any individual elements of a transmitted signal and also employ in the district-telegraph box of the subscriber transmitting apparatus for the distinctive or characteristic signal used when oral communication is desired, such that a prolonged break of the circuit (one or more) will be produced when the box

is pulled for the purpose of establishing oral communication with the central office.

My invention consists, accordingly, in the combinations of apparatus coöperating and constructed as hereinafter described, and specified in the claim.

In the accompanying drawing I have shown in skeleton diagram, an arrangement of apparatus embodying my invention the operative mechanism for the district-call box being omitted for the sake of simplicity.

In the drawing the usual main line connecting the district-call box with the central office is indicated by the numeral 1. At the central office the circuit is equipped with the usual device for receiving the call sent in by the district-call box and also the means for including a telephone transmitter and receiver in the direct circuit, which, as is well known, is a normally charged circuit, charged from a suitable battery or other generator.

The ordinary signal-wheel of the district-call box is indicated by the numeral 2, while 3 indicates the usual contact-spring engaging with the periphery thereof and adapted to send signals corresponding to the number and sequence of the breaks in the periphery of the said wheel 2 when revolved in the direction of the arrow.

In the box shown the signal given would be one break followed by a space and then two breaks, thus indicating the number "12."

The circuit is through the spring 3, the wheel 2, and shaft thereof, as well understood in the art. The parts are shown in the normal position, at which the wheel automatically comes to rest after each call.

4 indicates the telephone-receiver, 5 the telephone-transmitter, and 6 a suitable switch adapted to break the direct connection of the line 1 with the wheel 2 and to shift it to the branch or loop leading to a supplemental contact-spring 7, bearing upon the body or side of wheel 2, which is provided with one or more openings or breaks 8 in its surface, as indicated, in position to pass under the free end of the spring 7 when the wheel begins to rotate. These breaks (indicated by the dark spaces) may obviously be either insulation embedded in the disk in holes or depressions cut or formed therein or may be simply blank



spaces where the spring will not make any mechanical contact, as well understood in the art. These breaks or openings are of such length or relation circumferentially as to give  
 5 a prolonged signal, indicating that oral communication is desired. The signal given by the spring 7 may follow or precede that given by the wheel 2 of the district-call box.

In the preferred manner of carrying out  
 10 my invention the signal sent by spring 7 is one or more prolonged breaks, and the central-office apparatus is provided with receiving devices adapted to provide an audible signal which will give a prolonged sound, corresponding in duration to the length or du-  
 15 ration of the breaks produced by the signal-wheel. When, therefore, the central-office attendant hears only a succession of short sounds, he knows that the box is pulled for  
 20 a messenger; but when he hears a prolonged sound he knows that the box is pulled for oral communication and immediately places himself in oral communication with the subscriber calling and is not obliged to examine  
 25 the record of the received signal or to pay any particular attention to differences in signals, which are distinguished only from one another by the sequence of elements all of the same duration. In the ordinary equip-  
 30 ment of central-office apparatus in a district-telegraph apparatus the audible signals are given by a tap-bell. This evidently would not serve the purpose of my invention in its preferred form, since the sound would be the  
 35 same for both long and short breaks of circuit. Hence I employ in place of or in addition to the tap-bell at the central office a buzzer or vibrator-bell for giving the audible signals. One arrangement of devices that  
 40 may be used comprises a supplemental local circuit containing the buzzer or vibrator-bell 15, whose circuit is closed by the action of magnet 16, which may or may not be a tap-bell magnet and which is in the local circuit  
 45 of the usual main-line relay 17. The usual register-magnet is indicated at 18, and 19 is the spring-jack, by which a telephone set may be included in the main line at the central office. Other arrangements might be used  
 50 for giving the prolonged or characteristic audible signal.

The particular signal sent by the spring 7 is a "dot" followed by a "dash" or prolonged signal.

55 In the ordinary operation of the call-box the telephone is upon the hook 6 and the circuit is directly through the wheel 2, so that

the call-box may be used in the ordinary way for calling a messenger.

When it is desired to communicate orally  
 60 with the district-telegraph office to give any particular directions, the switch 6 is made to shunt the spring 7 into circuit by lifting the telephone from the hook, and the box is then  
 65 pulled in just the way that it is pulled to call a messenger. The circuit through the box is then from spring 3 to the wheel 2 and through spring 7; but the signal which goes to the central office is first made by the break or  
 70 breaks in the body of the wheel, after which the number designating the call-box is signaled by means of the breaks in the periphery of the wheel 2. The central-office attendant hearing the distinctive signal sent by  
 75 the spring 7 includes his telephone in the circuit and receives the order from the subscriber, whose telephone apparatus has already been placed in the circuit in the operation of changing the circuits to cause the box  
 80 when pulled to send a distinctive signal as well as the box-number.

If desired, a bell 9 may be placed in the circuit at the subscriber's office to enable him to be called from the central office.

While I have shown an automatic telephone-  
 85 switch 6 for the purpose of including the supplemental or distinctive signal device in the circuit with the main signal device, any other circuit-shifting appliances might be employed for the purpose.  
 90

What I claim as my invention is—

In a combined district telephone and telegraph system, the combination with the apparatus at the central office for recording the  
 95 box-signals designating the number of the box, of a vibrating receiver adapted to produce a prolonged vibratory signal of varying duration, a district-telegraph box having the usual circuit-breaking wheel and contact-  
 100 brush, and a supplemental contact-brush adapted to bear upon the face of the wheel and in line with one or more prolonged breaks in the surface of the wheel for the purpose of sending a signal adapted to produce in the  
 105 vibratory receiver a prolonged sound indicating audibly to the central-office operator that telephonic communication is desired.

Signed at New York, in the county of New York and State of New York, this 13th day of January, A. D. 1902.

CHARLES SELDEN.

Witnesses:

E. W. DAY,  
 W. B. FARINGER.