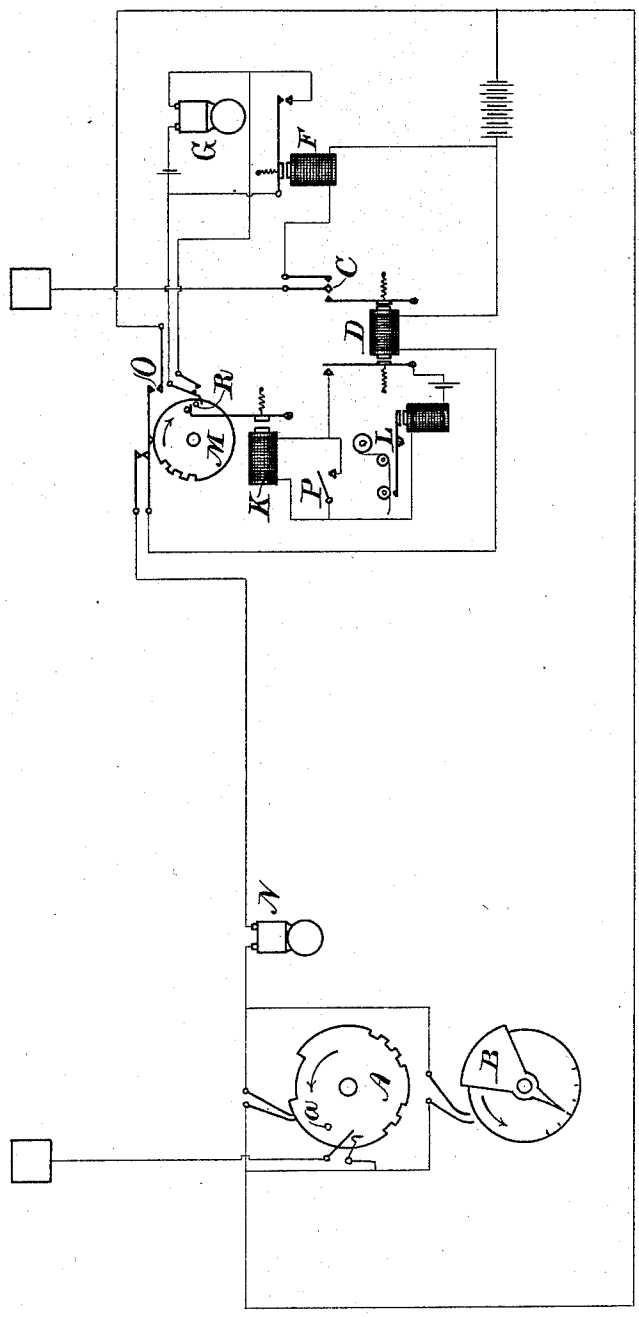
(No Model.)

M. J. BURNS.

SIGNALING TELEGRAPH.

No. 509,873. Patented Dec. 5, 1893.



WITNESSES

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SIGNALING-TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 509,873, dated December 5, 1893.

Application filed November 25, 1892. Serial No. 452,992. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. BURNS, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented a certain new and useful Improvement in Signaling-Telegraphs, of which the following is a specification.

In some of the systems of signaling telegraphs for police service now in use, it is customary to send signals of two different classes, one usually called "emergency" signals and the other "duty" signals. Of these two classes the former is used when it is desired to call for a patrol wagon or an ambulance, or to telephone to the central station, while for duty calls it is only necessary to have the officer report and indicate his presence at the right box at the right time. In a system of this kind, moreover, it has been usual to provide what is known as an "answer-back," that is, by setting a switch at the central station, the line is put in such condition that whenever a call is sent in from a box there will be a return call sounded on the bell at the box indicating to the officer that the central office wishes to communicate with him. Having received this "answer-back," the officer thereupon sends in a telephone call which brings the attendant at the central station to the telephone and the desired communication is had. In this latter proceeding, however, some time is lost by the officer in sending in the telephone call.

My invention consists in a device by which, whenever the apparatus at the central station is set for an answer-back signal, the emergency bell at the central office will be automatically set in operation so that the officer at the box need not be delayed by the necessity of sending an additional call. By this device, although the officer has made a duty call, yet the sending of an answer-back signal practically changes the duty call to an emergency call, as in both cases a bell is rung.

Referring to the accompanying drawings, which is a diagram illustrating my invention, A represents a break-wheel of the ordinary transmitting apparatus placed at a signal-box. This box is arranged so that either emergency calls or duty calls may be sent at the will of the operator. In the former case a bell is rung at the central station, and in the latter there is simply a record made of the box number on the register. This box is designated herein as a multiple transmitting apparatus which indicates that the box is arranged as above described, to send signals of different classes, one requiring immediate attention, and the other being of less urgency.

In order to send the desired kind of signal, the operator turns a sector B driven by a wheel of the clock-train so as to short-circuit or not, at will, the main box at a time when the contact springs are passing over the long notch in break-wheel A. If the short circuit is open at the time the brushes are passing over the long notch, the emergency call is sent in; otherwise the duty call. This is accomplished by having on the break-wheel A a pin *a*, which closes a second grounded circuit momentarily while the contact springs are over the long break. There is at the central station a second circuit-closer C in the same second circuit controlled by relay D, so that when the main line is open the armature of the relay closes the grounded circuit at C, and the current from the main battery E energizes the relay F, which controls the local circuit of the bell G. The ringing of this bell indicates that an emergency signal is at hand. If, however, only a duty call is to be sent, the sector B is so turned as to make a short circuit around the break-wheel A, while the contact springs are on the long break. The main line is therefore unbroken, and the relay D does not close the circuit at C when the pin *a*, makes contact with the grounded circuit at the signal box.

The apparatus thus far described is what is commonly used for the purpose of permitting the officer to send either class of calls as he may find necessary. As an addition to this apparatus a device known as the answer-back signal is used, which is arranged as follows:

K is a magnet included in the local circuit with the register L, which local circuit is controlled by the main relay magnet D. The magnet K controls a break-wheel M or some

similar circuit-changer, allowing it to make one complete rotation whenever the armature is attracted. This break-wheel makes three short interruptions of the main circuit, each of which is sounded on the bell N at the signal box and notifies the officer that the central office wishes to communicate with him. In order to prevent these same interruptions from operating the main relay, the break-wheel M also closes a short circuit around the relay at the point O each time that the main circuit is interrupted, thereby preventing the relay from acting. Around the magnet K is placed a short-circuiting switch P, and when this is closed the magnet K is never energized by the local circuit. When, however, the central office desires to send an answer-back signal, the switch P is opened at about the time when the officer is expected at one of the boxes on his beat. When the switch P is left open, the interruption of the main circuit and closure of the local register circuit by the signal which the officer sends in, also causes the magnet K to act and the answer-back signal to be sent out.

My invention consists in adding to the apparatus for the answer-back signal a device which will at the same time operate the emergency signal bell G and thereby render it unnecessary for the officer to send an extra emergency call for telephone connection, as the emergency call bell will be sounded automatically upon the action of the break-wheel M. I accomplish my purpose by putting on the break-wheel M a pin R adapted to operate a circuit-closer in the local circuit of the bell G, so that the bell G is operated in the same manner as if its local circuit were closed by the magnet F on the receipt of an emergency call. Therefore the attendant at the central station has only to set switch P and wait for the bell to ring while the officer sends in his ordinary duty call, and upon hearing the "answer-back" signal on his bell has only to take up his telephone and receive the message awaiting him.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a signaling system, the combination with a multiple transmitting apparatus adapted to send both emergency and duty calls, of a circuit changer at the central station adapted to act as a transmitter, means for setting the same to be operated automatically upon receipt of a duty signal, and a bell at the central station controlled by said circuit changer so as to be sounded automatically when the said circuit changer is operated, substantially as described.

2. In a signaling system, the combination with a multiple transmitting apparatus adapted to send different classes of calls, of receiving apparatus at the central station for distinguishing the different classes of calls, a circuit changer at the central station adapted to be operated as a transmitter, means for setting the same to be operated automatically upon the receipt of a duty signal, and a bell controlled by the said circuit changer so as to be sounded when the said circuit changer is operated, substantially as described.

3. In a signaling system, the combination with a transmitting apparatus adapted to send different classes of calls, of receiving apparatus at the central station, a bell at the central station adapted to be sounded with one class of signals, a device for sending an answer-back signal, and a connection between said device and said bell whereby the latter is sounded when operated by the former.

In witness whereof I have hereunto set my hand this 22d day of November, 1892.

MICHAEL J. BURNS.

Witnesses:
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H. J. LIVERMORE.