No. 812,733. PATENTED FEB. 13, 1906.

C. L. FOSTER & P. K. HIGGINS.

POLICE SIGNALING APPARATUS.

APPLICATION FILED JULY 14, 1904.

Fig. 1.

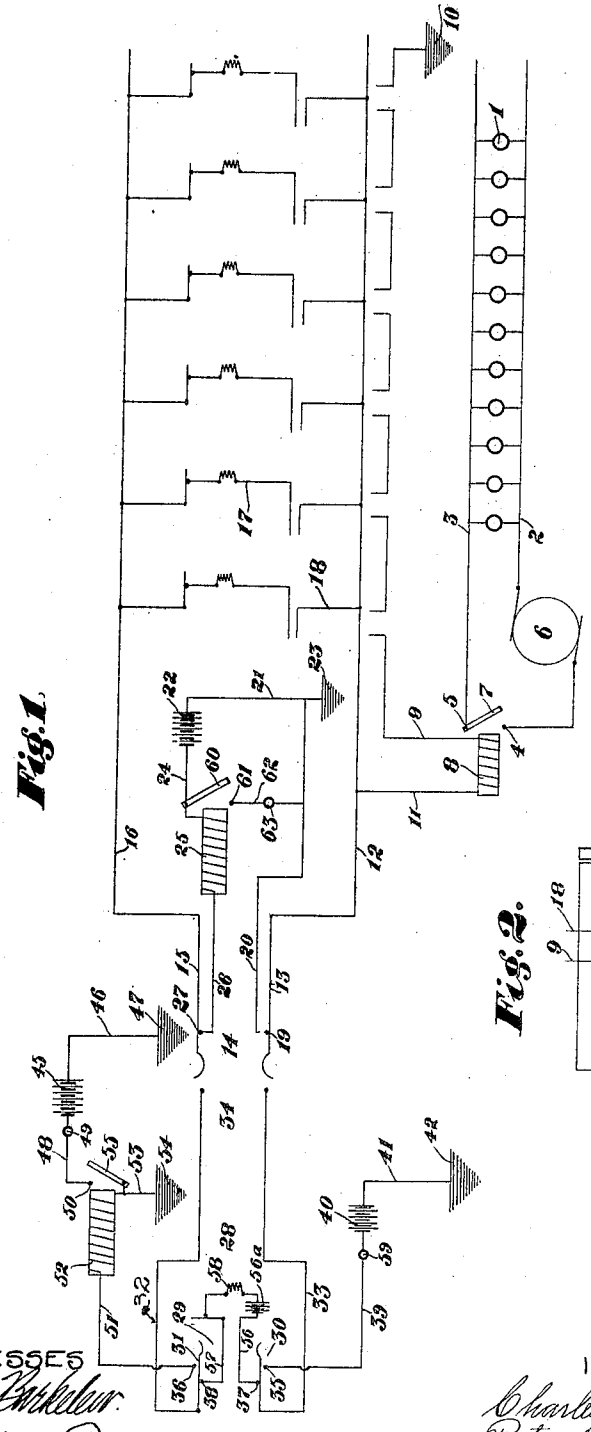
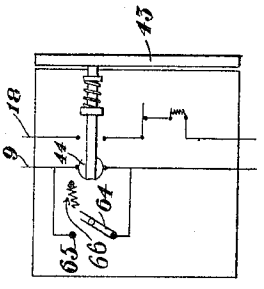


Fig. 2.



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POLICE SIGNALING APPARATUS.

No. 812,733. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed July 14, 1904. Serial No. 216,605.

To all whom it may concern:

Be it known that we, CHARLES L. FOSTER and PETER KERR HIGGINS, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Police Signaling Apparatus, of which the following is a specification.

Our invention relates to means for signaling from a central station police officers who are on duty in the district in which a box is located or who happen to be in the vicinity thereof and for such officer calling the central station; and the object thereof is to provide a signal system by means of which an officer on his beat may be quickly called to a patrol-box therein by a signal operated from any other patrol-box in his district or from the central police-station and there communicated with from either of said places or he may call the central station. We accomplish this object by the signal system described herein and illustrated in the accompanying drawings, in which—

Figure 1 is a diagrammatic view of our signal system, and Fig. 2 is a diagrammatic view of the interior of a patrol-box.

In the drawings, 1 represents electric lights or other signals, either visual or audible, which are operated electrically through the circuit formed by the wires 2 and 3, which are connected to the contacts 4 and 5, respectively. In either of these lines (shown in the line 2) is a dynamo 6 or other source of power by means of which current is furnished to operate the signals. Pivotally secured to the contact 5 is an armature 7 of the relay 8, one pole of which is connected by wire 9 to ground 10. This line passes through the several patrol-boxes shown diagrammatically at telephone 17 in Fig. 1, details of the same being shown in Fig. 2. The other pole of the relay is connected by line 11 with line 12. Line 12 is connected to spring-contact 13 of socket 14, which is located at the central station. Socket 14 is provided with spring-contact 15, to which is connected line 16. Lines 12 and 16 are the main telephone-lines, to which are connected in parallel telephones 17, of which there may be any desired number in an officer's beat. Branch line 18, in which the telephone is installed, runs through the patrol-box, as shown in detail in Fig. 2, and when said box is closed said branch line is open, as shown. Spring-contact 13 normally rests against contact 19, which is connected by line 20 to ground 23. Battery 22 is connected by line 21 to ground 23. The other pole of battery 22 is connected by line 24 to one pole of relay 25. The other pole of relay 25 is connected by line 26 with contact 27, which is normally engaged by the spring-contact 15.

At the central station 28 is key 29, which is provided with spring-contacts 30 and 31, which are connected by lines 32 and 33 to a plug 34, which is adapted to be inserted in socket 14, and thereby disconnect spring-contacts 13 and 15 from contacts 19 and 27. Now when an operator at the central station desires to communicate with an officer on the beat he turns key 29, thereby causing spring-contact 30 to engage contact 35 and spring-contact 31 to engage contact 36 and at the same time to be disengaged from contacts 37 and 38, respectively. Contact 35 is connected by line 39 with one pole of battery 40, the other pole of which is connected by line 41 to ground 42. He then inserts plug 34 into socket 14, thereby disconnecting the spring-contacts 13 and 15 from contacts 19 and 27, respectively, and current then flows through relay 8, thereby energizing it and drawing its armature 7 into its magnetic field and into engagement with contact 4, thereby closing the circuit through the signals 1 and causing them to operate, which calls the officer to the nearest patrol-box.

To avoid annoyance to the operator at the central station incident to having to wait with the receiver at his ear until he receives a telephonic communication, we have provided battery 45, one pole of which is connected by line 46 with ground 47 and the other pole of which is connected by line 48, having a signal 49, which is preferably an electric light connected to contact 50. Contact 36 is connected by line 51 with one pole of relay 52, and the other pole of relay 52 is connected by line 53 to ground 54. Armature 55 of relay 52 is connected to line 53, and when said relay is energized said armature is drawn within its magnetic field and engages contact 50.

When the officer reaches the patrol-box, he opens the door 43 thereof, which permits the spring-switch 44 to break line 9 and connect line 18, thereby operating relay 52, which closes the circuit through battery 45 and lights lamp 49. Key 29 is then turned

to connect the telephone at the central station with the telephone-circuit, thereby establishing telephonic communication from the patrol-box to the central station, and when any other box on the same beat is opened it likewise is thrown into telephonic communication with the central station and with any other open box. Now when the telephone-circuit is closed by opening the door of the patrol-box relay 52 is immediately energized and the circuit through battery 45 established, which causes signal 49 to operate, thereby notifying the operator at the central station that an officer is at the patrol-box. He then turns key 29, thereby disconnecting spring-contact 30 and 31 from contacts 35 and 36 and causing their reëngagement with contacts 37 and 38, which contacts are connected by lines 56 and 57 with the telephone 58 at the central station, and the operator is then in communication with the officer on the beat. Line 56 has battery 56[a] therein. As soon as he has finished his conversation with such officer he withdraws plug 34 from socket 14 and the officer closes door 43 of the patrol-box, which restores the apparatus to its normal position. In order to determine whether battery 40 is in working order, we provide a signal 59, which is preferably an electric light, which is operated when said battery-circuit is closed, as before described. Electric lights or signals 1 are located in the beat and preferably near a patrol-box. Now when an officer on the beat desires to communicate with the central station he opens the door of the patrol-box, which establishes the telephone-circuit, thereby energizing relay 25, which draws its armature 60 into its magnetic field and causes it to engage contact 61. This contact is connected by line 62, having a signal 63 therein, with line 20, thereby causing the operation of such signal and notifying the operator at the central station that some one on the beat desires to communicate with him. The operator then makes his connections, as before described, and in so doing breaks the circuit through relay 25 and renders signal 63 inoperative. Now if the officer or any one else at the box desires to again operate the signal to call other officers to communicate with him by operating switch 64 to engage contact 65 the signals are again rendered operative from central. This switch is preferably a self-disconnecting switch, so that when the pressure is removed therefrom it disconnects from contact 65, said disconnection being effected by spring 66.

It will thus be seen that we have provided simple and efficient means whereby an officer on the beat can be quickly called by an operator at the central station and also whereby such officer may call said central station.

This system is flexible in that central energy or local battery may be used for telephonic communication. Responsible persons in the district may be provided with keys to the patrol-boxes and may thus call officers on the beat and the central station in like manner, as before described.

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

1. In combination with a normally open signal-circuit having signals therein; a controlling-circuit patrol-boxes through which said controlling-circuit passes; a central station; a relay in said controlling-circuit having one side thereof connected in series through each patrol-box to ground and the other side connected to line leading into said central station; an armature for said relay, said armature being connected in said signal-circuit and adapted to close said circuit when said relay is energized; and means at said central station to energize said relay, whereby said signals are rendered operative.

2. In combination a normally open signal-circuit having signals therein; a central station; a normally open telephone-circuit extending from said central station; a controlling-circuit patrol-boxes through which said telephone and controlling circuits pass; a relay in said controlling-circuit having one side thereof connected in series through each patrol to ground and the other side connected to said telephone-circuit; an armature for said relay, said armature being connected in said signal-circuit and adapted to close said signal-circuit when said relay is energized; and means at said central station to energize said relay, whereby said signals are rendered operative.

3. In a signal apparatus, the combination of a central station and outlying substations at distant points; an electric controlling-circuit passing through said stations, a signal-circuit having signals therein; a complete central energy telephone-circuit passing through said substations; an automatic controlling-switch at each substation adapted to close one of the circuits passing therethrough and open the other; a relay in said controlling-circuit having one side thereof connected in series through each substation to ground and the other side connected to said telephone-circuit; an armature for said relay, said armature being connected in said signal-circuit and adapted to close said circuit when said relay is energized; and means at said central station to energize said relay whereby said signals are rendered operative.

4. In a signal system, the combination of an electric circuit having signals therein, and a central energy telephone system, comprising controlling and telephone circuits, patrol-boxes through which said circuits pass, means in said boxes to open the circuits having the signals therein, and to close the cir-

cuits of the telephone system when the door of the patrol-box is opened, an auxiliary circuit having a relay therein connected to said telephone-circuit, a battery in said auxiliary circuit, a pivoted armature for said relay, said armature being connected in said auxiliary circuit at one side of said battery, a contact connected by a branch line having a signal therein on the other side of said battery, whereby when said relay in said circuit is energized its armature engages said contact and operates said signal.

In witness that we claim the foregoing we have hereunto subscribed our names this 29th day of June, 1904.

CHARLES L. FOSTER.
PETER KERR HIGGINS.

Witnesses:
G. E. HARPHAM,
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