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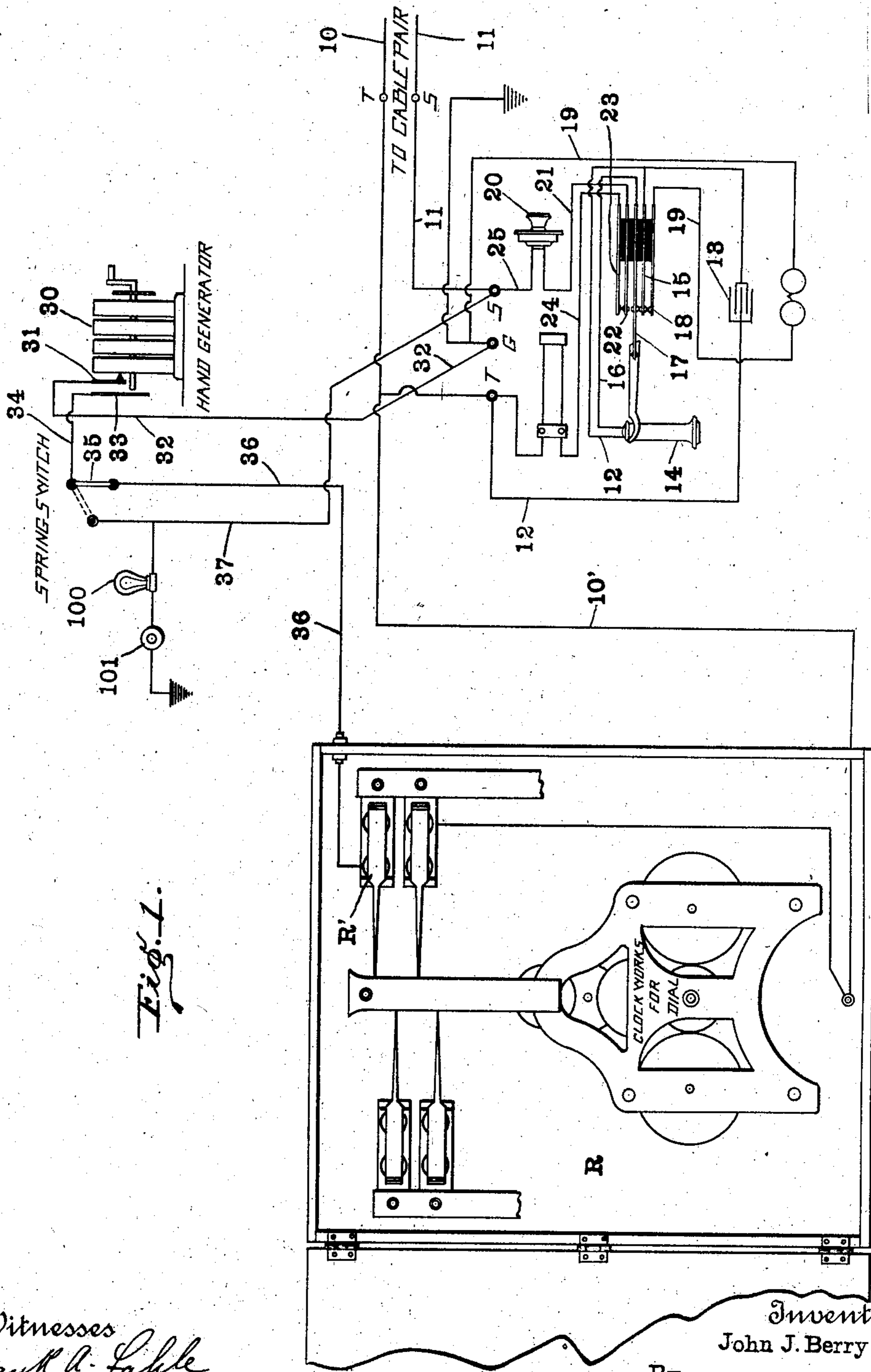
PATENTED MAR. 27, 1906.

J. J. BERRY.

COMBINED TELEPHONE AND WATCHMAN'S ALARM SYSTEM.

APPLICATION FILED JAN. 3, 1905.

4 SHEETS—SHEET 1.



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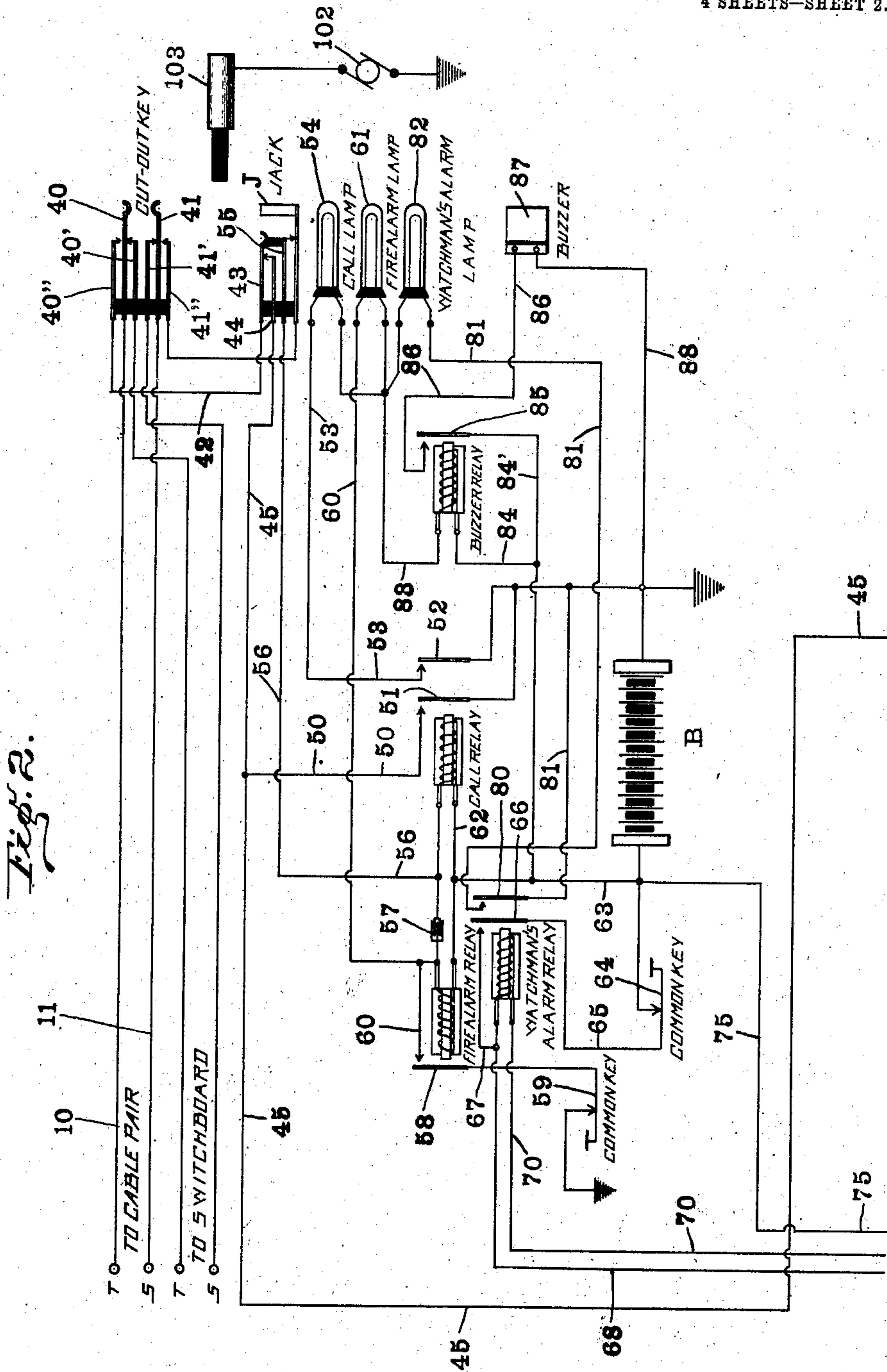
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4 SHEETS—SHEET 2.



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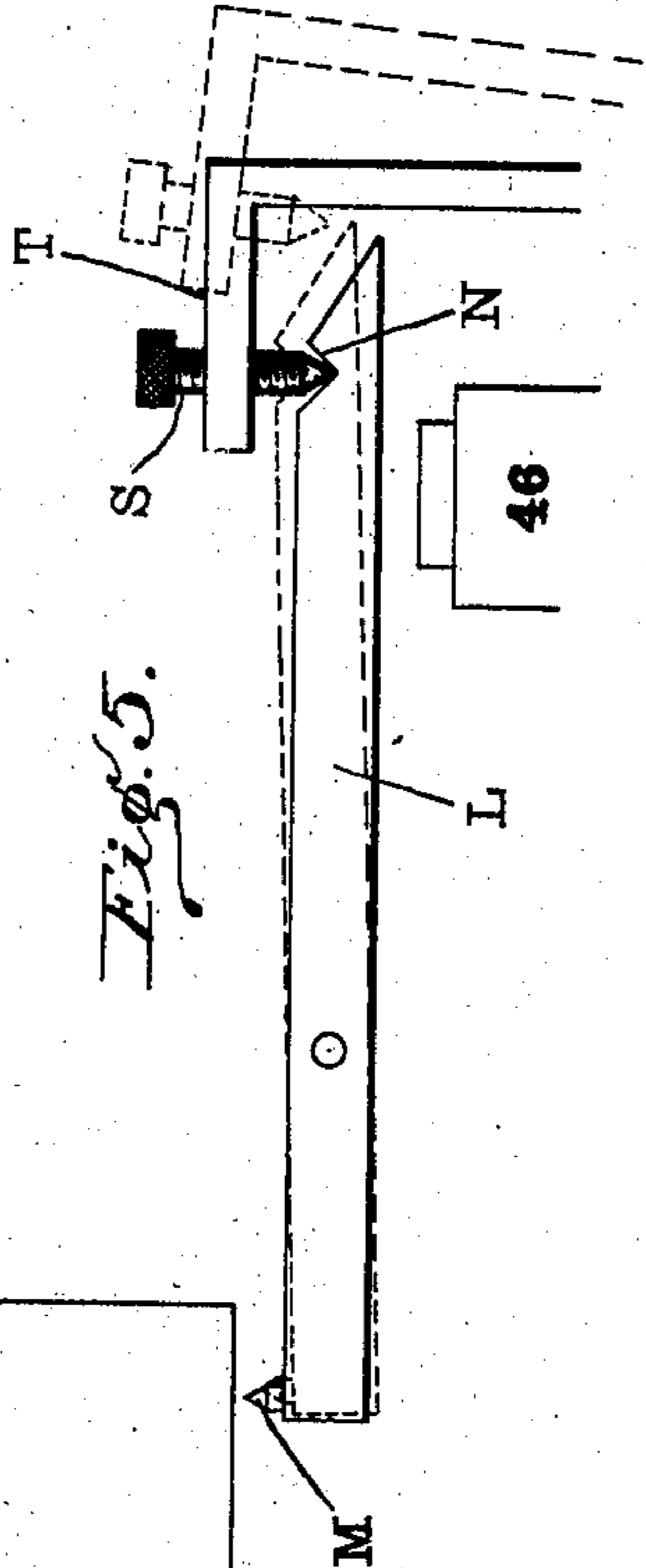
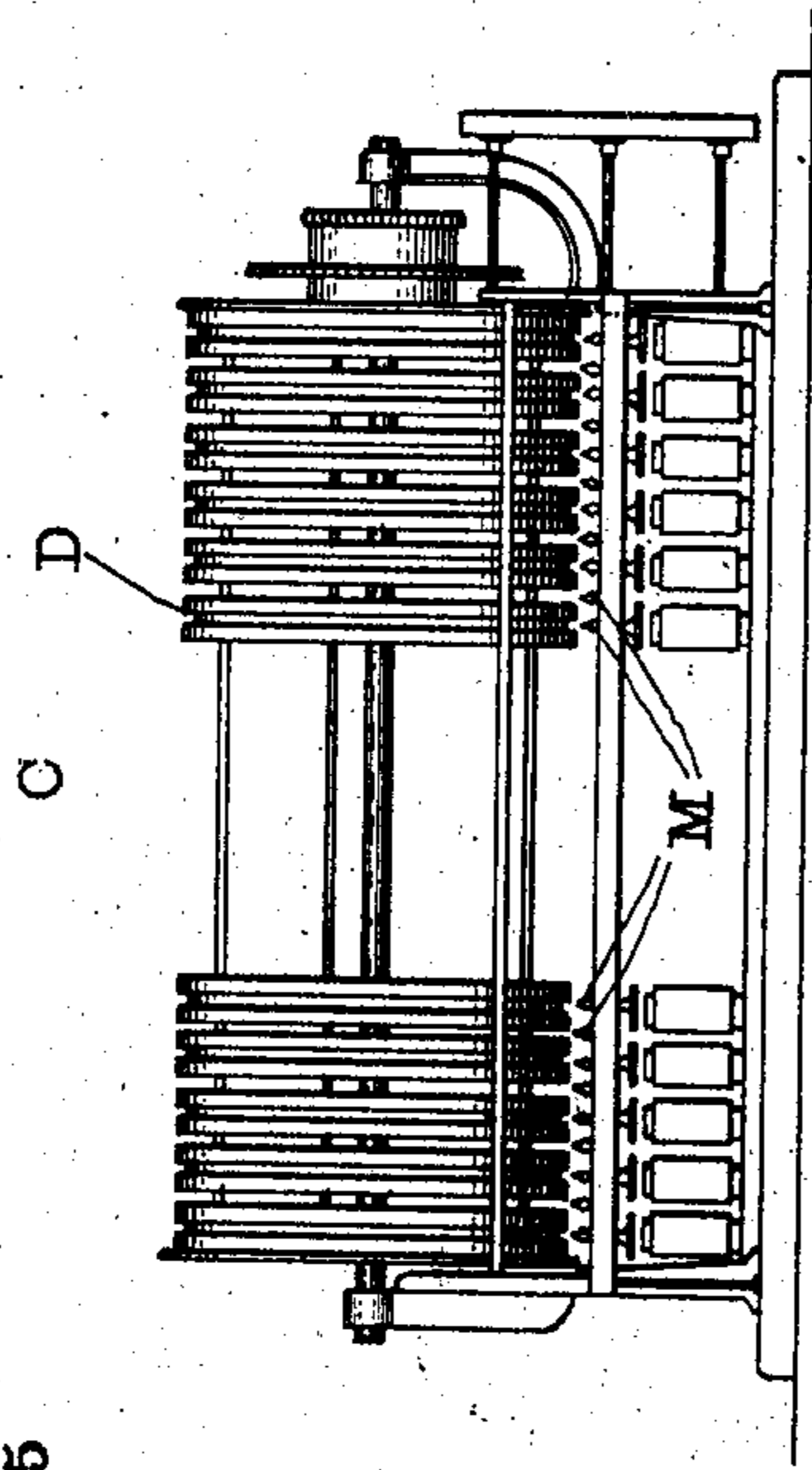
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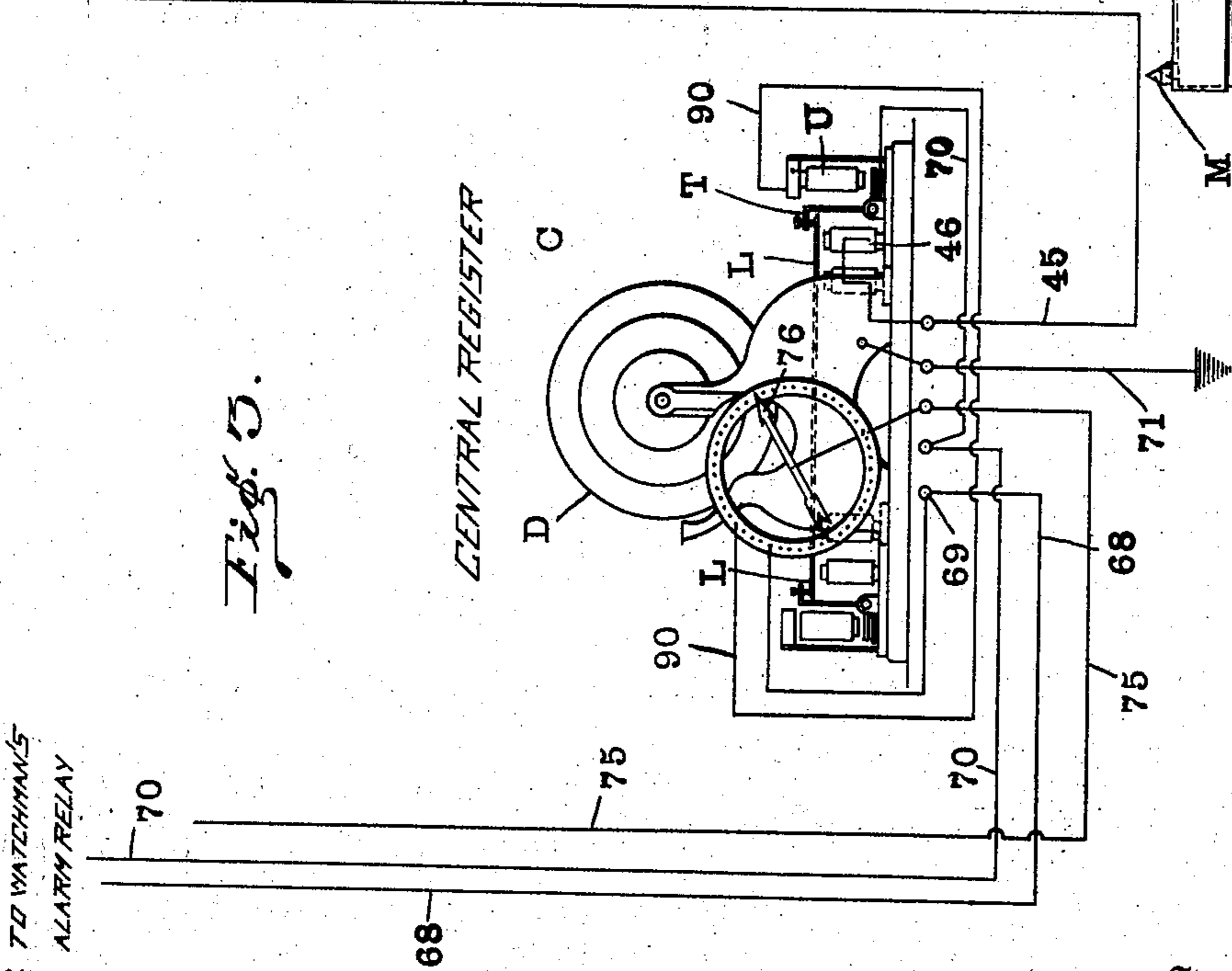
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4 SHEETS—SHEET 3.

*Fig. 4.*



*Fig. 5.*



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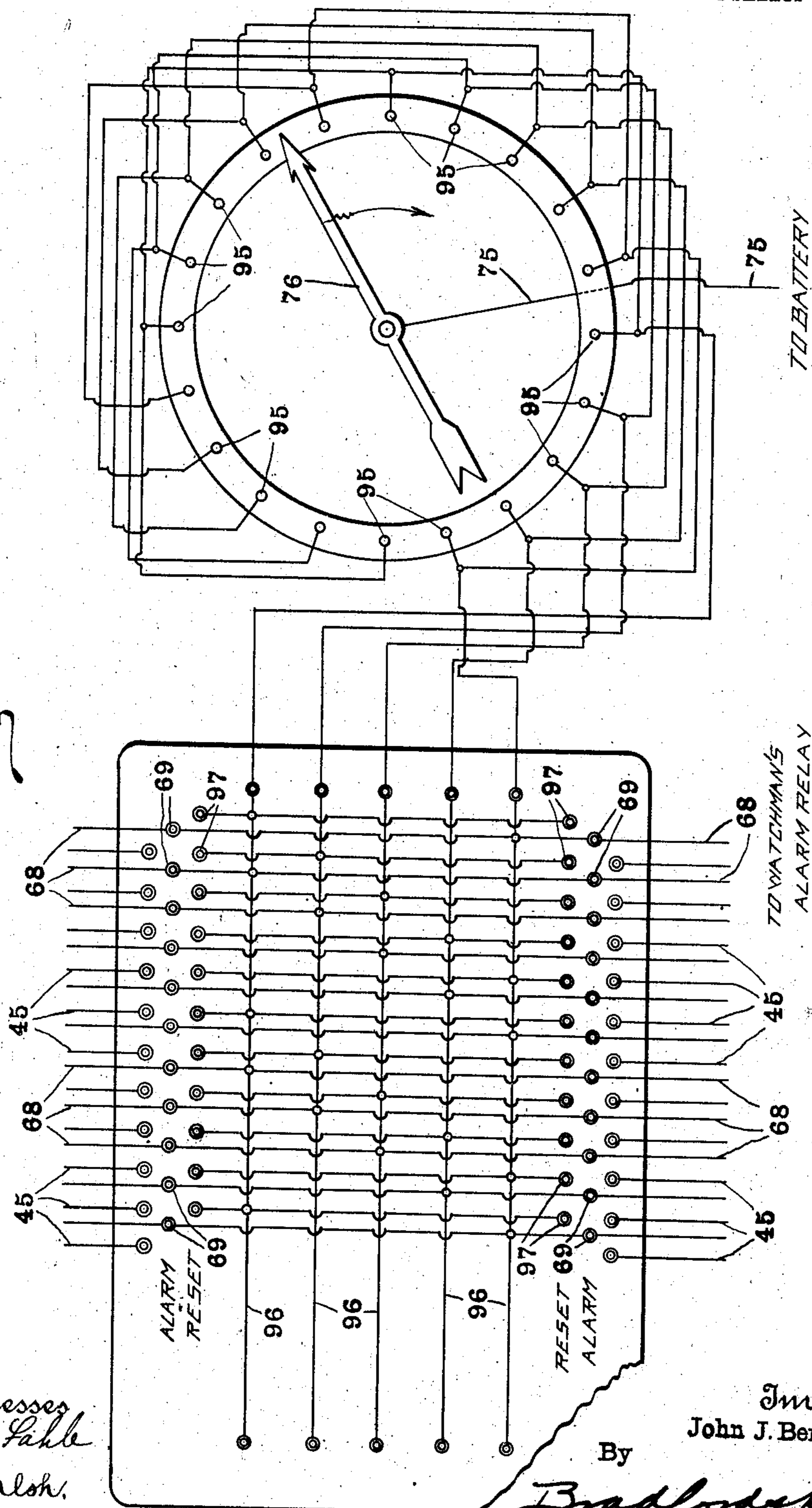
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4 SHEETS—SHEET 4.

*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

JOHN J. BERRY, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE INDIANAPOLIS WATCHMAN CLOCK COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF INDIANA.

## COMBINED TELEPHONE AND WATCHMAN'S ALARM SYSTEM.

No. 816,000.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed January 3, 1905. Serial No. 239,438.

*To all whom it may concern:*

Be it known that I, JOHN J. BERRY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in a Combined Telephone and Watchman's Alarm System, of which the following is a specification.

At the present time it is customary in many factories to have a night watchman whose duty it is to regularly visit all portions of the plant at stated times, and in order to have a check upon the watchman it is customary to provide the plant with recording mechanism connected with various stations located at different points of the plant, the construction being such as to make a permanent record of the time of visit of the watchman to each particular station.

The object of my present invention is to provide an arrangement of mechanism by which a plurality of factories having mechanism of this character may be connected through ordinary telephone-circuits with a central telephone-exchange and to arrange in this exchange or at another point, if desired, mechanism which will serve to automatically record the regular and timely visits of the watchmen at each factory, to notify the operator at central in case any watchman fails to make any regular and stated visit to any station, to enable a watchman at any factory to quickly notify central in case of fire, designating at central the particular factory from which the fire-alarm is sent in order that central may quickly and accurately notify the fire-department, to be of such character that the watchman may be able to use the telephone, and the arrangement also being such as not to interfere in any manner with the regular use of the telephone.

The accompanying drawings illustrate my invention:

Figure 1 is a diagrammatic view of a factory-watchman's recorder mechanism, together with the wiring for one substation in that factory, and a standard telephone equipment and its wiring. Fig. 2 is a diagrammatic view of the wiring and mechanism for a single factory in the telephone-exchange; Fig. 3, a diagrammatic view of the central registering mechanism for automatically receiving reports from a plurality of factories,

only a single factory-wiring being shown; Fig. 4, a diagrammatic side elevation of the apparatus shown in Fig. 3; Fig. 5, a detail of construction of such apparatus, and Fig. 6 a diagram of the wiring of the apparatus shown in Figs. 3 and 4.

In the drawings, 10 and 11 indicate the tip and sleeve, respectively, of a cable pair connecting the telephone in a given factory with central. The wire 10 is connected directly to the tip side of the telephone and by a wire 10' is connected to the recorder R of the factory.

In the present instance the telephone-wiring is shown as a central-energy type consisting of a wire 12, leading from the tip side through a condenser 13 to one side of the receiver 14 and also to the terminal 15. The opposite side of the receiver 14 is connected by a wire 16 with a receiver-hook terminal 17, which when the receiver is hung up swings down against terminal 15 and brings that terminal also into contact with a terminal 18, which is connected by a wire 19 to the ground. One side of the transmitter 20 is connected by a wire 21 with a terminal 22, which is engaged by the terminal 17 when the receiver is taken from its hook, said terminal 22 being urged into engagement with a terminal 23, which is connected by a wire 24 with the tip side of the system. The opposite side of the transmitter 20 is connected by a wire 25 with the sleeve side 11 of the cable pair.

A small magneto-alternator 30 is placed at each reporting-station in the factory, the terminal 31 being connected by a wire 32 to the ground and the terminal 33 being connected by a wire 34 to a switch 35, which is capable of forming a connection either with a wire 36, which leads to a particular recorder R', or a wire 37, which leads to the sleeve side, the normal position of the switch being such as to make connection with the wire 36.

Turning now to the wiring in central the cable pair 10 11 is brought to terminals 40 41, respectively, which normally connect with terminals 40' and 41', which lead, as tip and sleeve, respectively, to the regular switch-board. These terminals 40 and 41 are normally in contact with the terminals 40' and 41' but during the time of duty of a watchman in this particular factory these terminals

are separated by an ordinary plug, so as to contact with terminals 40'' and 41'', respectively. Terminal 40'' is connected by a wire 42 with a terminal 43 of a jack J, this terminal ordinarily contacting with a terminal 44, which is connected by a wire 45 to a registering electromagnet 46, which is one of a series of similar magnets forming part of the central register C. This central register consists, primarily, of a rotating drum D, adapted to receive a sheet of paper to be marked or perforated by any one of a series of markers M. Each marker M is carried by a pivoted lever L, which is arranged in the field of its particular magnet 46 and is provided at its end with a notch N, adapted to receive a pointed screw S, carried by a lever T, the armature of this lever being arranged in the field of a resetting-coil U. Any type of recording mechanism may be used.

Leading from wire 45 is a wire 50, the end of which is adapted to be engaged by a movable arm 51 of a call-relay. An arm 52 also forms part of the call-relay and is adapted to contact with the end of a wire 53, which leads to a call-lamp 54. The terminal 55 of the jack is connected by a wire 56 directly to one side of the coil of a call-relay and through a condenser 57 is connected to one side of the coil of a fire-alarm relay. The fire-alarm relay is provided with a swinging arm 58, which is grounded through a key 59, and this terminal 58 is adapted to be brought by the relay into contact with the end of a wire 60, which is connected to one side of a fire-alarm lamp 61, and wire 60 is also connected to the condenser side of the coil of the fire-alarm relay between the relay and the condenser. The opposite sides of the coils of the call-relay and fire-alarm relay are connected together by wire 62, and this wire is connected by wire 63 with a battery B and also to one side of a key 64, the opposite side of said key being connected by wire 65 with a swinging terminal 66, which forms part of a watchman's alarm-relay. The terminal 66 may be brought by the relay into contact with the end of a wire 67, which is connected to one side of the coil of the watchman's alarm-relay and is also connected by a wire 68 to one of the factory-alarm terminals 69 of the central register C, one of these terminals 69 being provided for each factory. The opposite side of the coil of the watchman's alarm-relay is connected by a wire 70 with the corresponding lever T of the central register C. The several coils 46 and U are grounded through a wire 71. Leading from the same side of battery B to which wire 63 is connected is a wire 75, which is connected to a rotating contact-hand 76 of the central register C, this arm being preferably arranged to make one revolution in each hour. The watchman's alarm-relay is provided with a second swinging terminal 80, arranged within its field and this terminal,

moved simultaneously by the relay with the arm 66, is adapted to contact with the end of a wire 81, which leads to one side of a watchman's alarm-lamp 82. The opposite sides of the three lamps 54, 61, and 82 are connected together to a wire 83, which leads to one side of the coil of a buzzer-relay, the other side of said coil being connected by a wire 84 with the wire 63 and thence to the battery. The wire 84 is connected by wire 84' to a swinging arm 85, arranged in the field of the buzzer-relay magnet, and this arm is adapted to be brought into contact with the wire 86, which leads to one side of a buzzer 87, the opposite side being connected by a wire 88 with one side of battery B and also with the ground. Arms 51, 52, and 80 are also connected to the ground on the same side of the battery B.

The operation thus far is as follows: In the day-time and under ordinary conditions the two terminals 40 and 41 are in contact with the switchboard-terminals 40' and 41', and the operation of the telephone is as usual. When the factories close and the watchmen come on duty, the operator at central plugs in the cut-out keys (one for each factory) so as to bring terminals 40 and 41 into contact with terminals 40'' and 41'', respectively. The drum D with its record-sheet of the central register C is driven so as to make a complete rotation during any desired period and in this apparatus all of the recording-arms L are in contact with the corresponding arms T, each arm T being held away from its normal position by reason of the engagement of its screw S in the notch N. When a watchman performs his regular and timely operation of a particular substation in his factory, an alternating current is sent through the following circuit: terminal 33, wire 34, switch 35, wire 36, the coil of the particular recorder R', (making a record at the factory instrument,) through the case of the instrument R, wire 10', cable-wire 10, terminals 40 and 40'', wire 42, terminals 43 and 44, wire 45 to the proper register-coil 46 of the central register C, and from thence through the frame of the register C and wire 71 to ground, thus completing a circuit through ground to wire 32 and terminal 31. As the drum D advances the arm 76 is also rotated, preferably once each hour, and shortly after the regular time for the operation of a record-station by the watchman this hand will come into contact with a terminal connected by a wire 90 with one side of the corresponding resetting-coil U, the opposite side being grounded through the frame of the machine, and when this takes place a circuit will be completed from battery through wire 75 to hand 76, through wire 90 and coil U to the frame of the machine C, and thence to ground, and from thence to the opposite side of the battery B. This will be the regular normal operation of the apparatus, so that if the watchman in the factory under

consideration regularly and properly performs his duty at each station there will be no operation of the central apparatus except to regularly and properly record each such registration in proper place on the register C.

The wire 90 in Fig. 3 indicates, diagrammatically and singly one-half of the wiring shown in full in Fig. 6. In Fig. 6 the hand 76 is arranged to contact successively with a series of terminal pins 95, which are arranged in groups, in the present instance of four, each spaced fifteen minutes apart. Each set of four pins is connected to a bus-bar 96 on the central register C, and each of these bus-bars is connected with several terminals 69 of the alarm-coils 46. In order to make the pins 95 perform double duty, I also connect to each bus-bar several of the resetting-coils U, each of said resetting-coils being indicated in Fig. 6 by a terminal 97. The alarm-coil of a factory, however, is connected to a pin 95, which is reached by the hand 76 in advance of the pin to which the corresponding resetting-coil U is attached—as, for instance, referring to Fig. 6, the pin 95, which is to be next engaged by the hand 76, is connected to the lowest bus-bar 96, and this bus-bar is connected to the first alarm-terminal 69 at the right-hand end, both bottom and top. The resetting-coil correspondingly is therefore connected to the top bus-bar 96, which is in connection with the second pin in advance of the position shown of the hand 76.

The watchman is required in the performance of his duty to send in his register from the particular station relating to the pin 95, which is immediately in advance of the hand 76, as shown in Fig. 6, before hand 76 reaches said pin, and if he does so the contact of hand 76 with this pin will have no effect upon the alarm-circuit because the corresponding pin S and arm L have been separated by the action of the corresponding coil 46, as indicated in dotted lines in Fig. 5, and as the hand 76 advances to the next succeeding pin 95 the resetting-circuit, already described, will be established and arm T swung by its resetting-magnet U back, so as to bring the parts to the position shown in full lines in Fig. 5. If now the watchman fails to send in his register before hand 76 reaches the corresponding pin 95, the following circuit is established: from hand 76, pin 95, terminal 69, wire 68, watchman's alarm-relay, wire 70, arm T, arm L to ground, and thence to battery B and wire 75 back to hand 76. This energizes the watchman's alarm-relay and draws arms 66 and 80 into contact with wires 67 and 81, respectively. Arm 66 completes a battery-circuit through wire 67, the coil of watchman's relay, wire 70, arm T, arm L, and through the ground to battery B, through key 64, and wire 65, thus moving the two arms 66 and 80 over in the new position. If the watchman during this time should operate the genera-

tor 30, he would draw down the lever L in the manner already described, and thus stop the alarm at central. The arm 80, contacting with wire 81, forms a circuit through said wire, the watchman's alarm-lamp, wire 83, the buzzer-relay coil, wire 84, wire 63, battery B, to arm 80. This lights the watchman's alarm-lamp and draws arm 85 over into contact with wire 86, thus closing the circuit-battery B, wire 63 84' 85 86, buzzer 87, and wire 88, so as to set the buzzer in motion and give a sounding-alarm as well as the sight-alarm of the watchman's alarm-lamp.

The watchman's alarm-lamp, as well as the other two lamps, will be designated so as to indicate the particular factory to which they belong, and the lighting of this watchman's alarm-lamp notifies central that the watchman has not performed his duty. The central operator will thereupon plug in the telephone at this factory in the usual manner and attempt to get the watchman by phone. If he does not reply, central will send a messenger to learn the reason. The buzzer will continue to operate until the central operator separates the key 64, whereupon the various parts will return to normal. If, on the other hand, the watchman is performing his duty, but desires to turn in a fire-alarm, he will swing switch 35 to the position indicated in dotted lines in Fig. 1 and operate the generator 30, whereupon an alternating current will be sent through the following circuit: terminal 33, wire 34, switch 35, wire 37, sleeve side 11 of the cable pair, terminals 41 and 41'', to the jack J and terminal 55 thereof, wire 56, and through condenser 57 to the fire-alarm relay, thence through wires 62 and 63, and battery B to the ground, thence to wire 32 and terminal 31. This will draw arm 58 over and bring it into contact with wire 60, whereupon a battery-circuit is established from B through wire 63, coil of fire-alarm relay, wire 60, arm 58, key 59, to ground, and from thence to the opposite side of the battery B. A battery-circuit is also established from battery B through wire 63, wire 84, coil of buzzer-relay wire 83, fire-alarm lamp 61, wire 60, arm 58, key 59, and through ground to the opposite side of battery, thus lighting the fire-alarm lamp. The current through the buzzer-relay draws over arm 85 in the manner already described and sets the buzzer going.

The central operator immediately upon the lighting of the fire-alarm lamp, recognizing the particular factory to which this lamp belongs, telephones an alarm to the fire headquarters, giving accurate information as to the location. The parts may then be caused to resume their normal positions by separating the key 59.

It is desirable that the watchman be advised that central has recognized his fire-

alarm signal, and for this purpose I provide the following: At each of the watchman's reporting-stations I arrange a lamp 100 and push-button or switch 101, which are placed  
 5 in series between wire 37 and the ground. At central I provide for the entire system a plug 103, only the sleeve side of which is active. The tip of this plug is a non-conductor and is sufficiently long to separate the terminal of  
 10 the jack J before its sleeve contacts with the sleeve side of the jack. This plug is adapted to enter any one of the jacks J, so as to connect the sleeve side thereof to ground through the central generator 102. As soon as a watch-  
 15 man turns in a fire-alarm he presses button 101, thus arranging part of a grounded circuit, which is completed by the insertion of plug 103, so that the central operator by the insertion of said plug lights lamp 100, and  
 20 thus advises the watchman that his fire-alarm has been noted.

If the watchman desires to call central for telephone communication, he lifts the receiver 14 from its hook, thus bringing termi-  
 25 nals 17, 22, and 23 into contact, whereupon a circuit is established from terminal 22, through wire 21, transmitter 20, wire 25, sleeve side 11 of the cable pair, terminal 41 and 41'', to the jack and terminal 55 thereof, wire  
 30 56 to the call-relay, (the direct current being unable to pass the condenser 57,) and thence through wires 62 and 63 to battery and through ground, from the ground through wire 71 to the frame of the central register C, thence  
 35 through coil 46 and wire 45, through terminals 44 and 43 of the jack, wire 42, terminals 40'' and 40, the tip side 10 of the cable pair through wire 24 to terminals 23. The inertia of coil 46 is too great to be immediately affected suf-  
 40 ficiently by the direct current now under consideration to draw down the arm. When the circuit just described is completed, the consequent energization of the call-relay draws arms 51 and 52 over into contact with the  
 45 wires 50 and 53, respectively, the arm 52 thus serving to close the circuit of the call-lamp 54, whereupon the call-lamp is lighted and the central operator knows that a telephone connection is desired.

50 The contact of arm 51 with the wire 50 also forms a short circuit around the coil 46, so that a direct metallic circuit is established through the terminals 22 and 23 and the call-relay instead of the grounded circuit initially  
 55 established, and thus removing any possibility of actuation of the register-arm L relating to this particular factory.

It will be readily understood that each factory will be connected by its corresponding  
 60 cable pair to central by connections the duplicate of those already described, the two keys 64 and 59 and plug 92 being common, however, to the entire system.

It will be seen from the preceding that I  
 65 am able to use the telephone service-wires for

connecting the watchman's recording systems of a large number of factories to a central station which may thus exercise a supervision over the several watchmen, and thus insure against careless or accidental failure of  
 70 the duty of the watchman; yet the arrangement is such that the additional service placed on the telephone-wires will not in any manner interfere with the operation of the telephone.

I claim as my invention—

1. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a watchman's recording means normally electrically con-  
 80 nected to said service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and its controlling-circuit, means for intermittently operating the alarm-signal through its control-  
 85 ling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

2. The combination, with an electrical-energy telephone, its service-circuit and  
 90 switchboard connections, of a watchman's reporting means normally electrically connected to said service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and its con-  
 95 trolling-circuit, means forming part of the central-recording means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing  
 100 the normal operation of the alarm-signal.

3. The combination, with an electrical-energy telephone, its service-circuit, and switchboard connections, of a watchman's reporting means normally electrically con-  
 105 nected to said service-circuit, an alarm-signal at central, central means for receiving and independently recording the operation of a plurality of watchman's reporting means, means for automatically intermittently operating  
 110 the alarm-signal, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

4. The combination, with an electrical-energy telephone, its service-circuit and  
 115 switchboard connections, of a watchman's reporting means normally electrically connected to said service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal, means con-  
 120 trolled by the central-recording means for automatically intermittently operating the alarm-signal, and means controlled by the watchman's reporting means for preventing normal operation of the alarm-signal.

5. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a watchman's reporting means normally electrically con-  
 125 nected with said service-circuit; a central ap- 130

paratus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; and electrical connections between said several parts whereby said recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal.

6. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit; a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; electrical connections between said several parts whereby said recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

7. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording means and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by a watchman's reporting means, and resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, substantially as and for the purpose set forth.

8. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the

fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by a watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, and a central-reply indicator at the reporting means, and means controlled from central to operate said indicator, substantially as and for the purpose set forth.

9. The combination, with an electrical-energy telephone, its service-circuit, and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, said circuit also consisting in part of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting part, the said watchman's reporting means, and means for reversing the connections between the watchman's reporting means and the service-circuit, substantially as and for the purpose set forth.

10. The combination, with an electrical-energy telephone, its service-circuit, and switchboard connections, of a central apparatus consisting of a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, and an electrical circuit between the central-recording means and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, a

watchman's reporting means, and a signal arranged at the reporting means, an electric circuit therefor to central, and means at central for controlling said circuit, substantially as  
5 and for the purpose set forth.

11. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central watchman's alarm-signal, central means for automatically intermittently operating said  
10 watchman's alarm-signal, a watchman's reporting means normally connected to the service-circuit, means under the control of the reporting means for preventing a particular  
15 automatic action of the watchman's alarm-signal, a central fire-alarm signal, and means under control of the watchman's reporting means for operating said fire-alarm signal.

12. The combination, with an electrical-  
20 energy telephone, its service-circuit and switchboard connections, of a central watchman's alarm-signal, means for automatically intermittently operating said watchman's  
25 alarm-signal, a watchman's reporting means connected to the service-circuit, means under the control of the reporting means for preventing a particular automatic action of the  
30 watchman's alarm-signal, a central fire-alarm signal, means under control of the watchman's reporting means for operating said fire-alarm signal, a central-reply indicator at  
the reporting means, and means controlled from central to operate said indicator.

13. The combination, with an electrical-  
35 energy telephone, its service-circuit and switchboard connections, of a central watchman's alarm-signal, a central-recording means for receiving and independently recording reports for a plurality of service-circuits, means  
40 controlled by said central-recording means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means connected to the service-circuit,  
45 a central fire-alarm signal, means controlled from the watchman's reporting means for operating the central fire-alarm signal, and means controlled from the watchman's reporting means for preventing a particular  
50 automatic operation of the watchman's alarm-signal.

14. The combination, with a plurality of electrical-energy telephones, their service-circuits and switchboard connections, of a  
55 plurality of watchman's reporting means one electrically connected to each of said service-circuits, a plurality of alarm-signals at central one for each service-circuit, a central recorder having a plurality of recording means each  
60 connected electrically to one of the service-circuits, means controlled by said central recorder for intermittently automatically operating the alarm-signals, and means controlled by each watchman's reporting means for preventing the normal automatic opera-

tion of the corresponding central alarm-sig- 65  
nal.

15. The combination, with a plurality of electrical-energy telephones, their service-circuits and switchboard connections, of a  
70 plurality of watchman's reporting means each electrically connected to one of said service-circuits, a plurality of alarm-signals at central one for each service-circuit, a central recorder provided with a plurality of recording  
75 mechanisms one for each service-circuit for independently recording the operation of the reporting means of its service-circuit, means controlled by the central recorder for automatically intermittently operating the  
80 alarm-signals, and means controlled by each watchman's reporting means for preventing the normal operation of the corresponding alarm-signal.

16. The combination, with a central-energy telephone system, of a watchman's  
85 alarm-signal electrically connected with said system, a watchman's reporting means electrically connected to a service-circuit of said system said reporting means comprising an independent source of electrical energy of a  
90 characteristic different from that of the telephone system electrically connected with the said service-circuits.

17. The combination, with an electrical-energy telephone, its service-circuit and  
95 switchboard connections, of a watchman's recording means electrically connected to said service-circuit and comprising an independent source of electrical energy, a central-recording means electrically connected to said  
100 service-circuit, an alarm-signal and its controlling-circuit, means controlled by the central-recording means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the  
105 watchman's reporting means for preventing the normal operation of the alarm-signal.

18. The combination, with an electrical-energy telephone, its service-circuit and  
110 switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, and comprising an independent source of electrical energy, a central-recording means electrically connected to said service-circuit;  
115 an alarm-signal and its controlling-circuit, means forming part of the central-recording means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing  
120 the normal operation of the alarm-signal.

19. The combination, with an electrical-energy telephone, its service-circuit and  
125 switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, and comprising an independent source of electrical energy, a central-recording means electrically connected

to said service-circuit, an alarm-signal, means controlled by the central-recording means for automatically intermittently operating the alarm-signal, and means controlled by the watchman's reporting means for preventing normal operation of the alarm-signal.

20. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit and comprising an independent source of electrical energy, a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; and electrical connections between said several parts whereby said recording means may automatically and intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal.

21. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit, and comprising an independent source of electrical energy, a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; electrical connections between said several parts whereby said recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

22. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently contacting parts, and also of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermit-

tently-contacting parts, and a watchman's reporting mechanism comprising an independent source of electrical energy electrically connected to the service-circuit, substantially as and for the purpose set forth.

23. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by a watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, a central-reply indicator at the reporting means, means controlled from central to operate said indicator, and a watchman's reporting mechanism comprising an independent source of electrical energy electrically connected to the service-circuit, substantially as and for the purpose set forth.

24. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, said circuit also consisting in part of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, the said watchman's reporting means comprising an independent source of electrical en-

ergy, and means for reversing the connections between the watchman's reporting means and the service-circuit, substantially as and for the purpose set forth.

5 25. The combination, with an electrical-energy telephone, its service-circuit, and switchboard connections, of a central apparatus consisting of a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-  
10 alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, electrical connections between the fire-alarm relay, the call-  
15 relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, and an electrical circuit between  
20 the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, a watchman's reporting means comprising an independent source of  
25 electrical energy, a signal arranged at the reporting means, an electric circuit therefor to central, and means at central for controlling said circuit, substantially as and for the purpose set forth.

30 26. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central watchman's alarm-signal, means for automatically intermittently operating said watchman's  
35 alarm-signal, a watchman's reporting means comprising an independent source of electrical energy connected to the service-circuit, means under the control of the reporting means for preventing a particular automatic  
40 action of the watchman's alarm-signal, a central fire-alarm signal, means under control of the watchman's reporting means for operating said fire-alarm signal, a central-reply indicator at the reporting means, and means  
45 controlled from central to operate said indicator.

27. The combination, with an electrical-energy telephone, its service-circuit and switchboard connections, of a central watch-  
50 man's alarm-signal, a central-recording means for receiving and independently recording reports from a plurality of service-circuits, means controlled by said central-recording means for automatically intermittently op-  
55 erating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy connected to the service-circuit, a central fire-alarm signal, means controlled from the  
60 watchman's reporting means for operating the central fire-alarm signal, and means controlled from the watchman's reporting means for preventing a particular automatic operation of the watchman's alarm-signal.

65 28. The combination, with an electrical-

energy telephone, its service-circuit and switchboard connections, of a central watchman's alarm-signal, means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means  
70 comprising an independent source of electrical energy connected to the service-circuit, a central fire-alarm signal, means controlled from the watchman's reporting means for operating the central fire-alarm signal, means  
75 controlled from the watchman's reporting mean for preventing a particular automatic operation of the watchman's alarm-signal, a central-reply indicator at the reporting means, and means controlled from central to operate  
80 said indicator.

29. The combination, with a telephone, its service-circuit and switchboard connections, of a watchman's recording means electrically connected to said service-circuit and com-  
85 prising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and  
90 its controlling-circuit, means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-  
95 signal.

30. The combination, with a telephone, its service-circuit and switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, and com-  
100 prising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and  
105 its controlling-circuit, means forming part of the central-recording means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for pre-  
110 venting the normal operation of the alarm-signal.

31. The combination, with a telephone, its service-circuit and switchboard connections, of a watchman's reporting means electrically  
115 connected to said service-circuit, and comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central-recording means electrically connect-  
120 ed to said service-circuit, an alarm-signal, means controlled by the central-recording means for automatically intermittently operating the alarm-signal, and means controlled by the watchman's reporting means  
125 for preventing normal operation of the alarm-signal.

32. The combination, with a telephone, its service-circuit and switchboard connections, of a watchman's reporting means electrically  
130

connected with said service-circuit and comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a  
 5 central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; and electrical connections between said several parts whereby said recording means may automatically and intermit-  
 10 tently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal.

15 33. The combination, with a telephone, its service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit, and comprising an independent source of electrical energy having a characteristic difference from  
 20 the electrical energy of the service-circuit, a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; electrical connections between  
 25 said several parts whereby said recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation  
 30 of the watchman's alarm-signal or to operate the fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

34. The combination, with a telephone, its  
 35 service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the  
 40 watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections be-  
 45 tween the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-record-  
 50 ing apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by the watchman's reporting means, resetting means  
 55 for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, and a watchman's reporting mechanism comprising an independent source of electrical en-  
 60 ergy having a characteristic difference from the electrical energy of the service-circuit electrically connected to the service-circuit substantially as and for the purpose set forth.

65 35. The combination, with a telephone, its

service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a  
 70 separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-  
 75 circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said  
 80 circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by a watchman's reporting means, resetting means for said recording means provided with an elec-  
 85 trical circuit consisting in part of the aforesaid intermittently-contacting parts, a central-reply indicator at the reporting means, means controlled from central to operate said indicator, and a watchman's reporting mech-  
 90 anism comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit electrically connected to the service-circuit, substantially as and for the pur-  
 95 pose set forth.

36. The combination, with a telephone, its service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-  
 100 signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling  
 105 a separable connection in the call-signal circuit, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected  
 110 with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, said circuit also consisting in  
 115 part of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, the  
 120 said watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, and means for reversing the connections between  
 125 the watchman's reporting means and the service-circuit, substantially as and for the purpose set forth.

37. The combination, with a telephone, its service-circuit, and switchboard connections, 30

of a central apparatus consisting of a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, and an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a signal arranged at the reporting means, an electric circuit therefor to central, and means at central for controlling said circuit, substantially as and for the purpose set forth.

38. The combination, with a telephone, its service-circuit and switchboard connections, of a central watchman's alarm-signal, means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit connected to the service-circuit, means under the control of the reporting means for preventing a particular automatic action of the watchman's alarm-signal, a central fire-alarm signal, means under control of the watchman's reporting means for operating said fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

39. The combination, with a telephone, its service-circuit and switchboard connections, of a central watchman's alarm-signal, a central-recording means for receiving and independently recording reports from a plurality of service-circuits, means controlled by said central-recording means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit connected to the service-circuit, a central fire-alarm signal, means controlled from the watchman's reporting means for operating the central fire-alarm signal, and means controlled from the watchman's reporting means for preventing a particular automatic operation of the watchman's alarm-signal.

40. The combination, with a central-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's recording means electrically con-

nected to said service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and its controlling-circuit, means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

41. The combination, with a central-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and its controlling-circuit, means forming part of the central-recording means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

42. The combination, with a central-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, an alarm-signal at central, central means for receiving and independently recording the operation of a plurality of watchman's reporting means, means for automatically intermittently operating the alarm-signal, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

43. The combination, with a central-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal, means controlled by the central-recording means for automatically intermittently operating the alarm-signal, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

44. The combination, with a central-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit; a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; and electrical connections between said several parts whereby said recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal.

45. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically

connected with said service-circuit; a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; electrical connections between said several parts whereby said recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

46. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm, a call-relay controlling a separable connection in circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by a watchman's reporting means, and resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, substantially as and for the purpose set forth.

47. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by a watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, and a central-reply indicator at the reporting

means, and means controlled from central to operate said indicator, substantially as and for the purpose set forth.

48. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, said circuit also consisting in part of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, the said watchman's reporting means, and means for reversing the connections between the watchman's reporting means and the service-circuit, substantially as and for the purpose set forth.

49. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, the said watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, the said fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, the said call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, and an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, a watchman's reporting means, and a signal arranged at the reporting means, an electric circuit therefor to central, and means at central for controlling said circuit, substantially as and for the purpose set forth.

50. The combination, with a central-energy telephone, its complete metallic service-circuit and switchboard connections, of a central watchman's alarm-signal, central means for automatically intermittently operating said watchman's alarm-signal, a watchman's

reporting means connected to the service-circuit, means under the control of the reporting means for preventing a particular automatic action of the watchman's alarm-signal, a central fire-alarm signal, and means  
5 under control of the watchman's reporting means for operating said fire-alarm signal.

51. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
10 central watchman's alarm-signal, means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means connected to the service-circuit, means under the control of the reporting  
15 means for preventing a particular automatic action of the watchman's alarm-signal, a central fire-alarm signal, means under control of the watchman's reporting means for  
20 operating said fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

52. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
25 central watchman's alarm-signal, a central-recording means for receiving and independently recording reports from a plurality of service-circuits, means controlled by said central-recording means for automatically inter-  
30 mittently operating said watchman's alarm-signal, a watchman's reporting means connected to the service-circuit, a central fire-alarm signal, means controlled from the  
35 watchman's reporting means for operating the central fire-alarm signal, and means controlled from the watchman's reporting means for preventing a particular automatic operation  
40 of the watchman's alarm-signal.

53. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
45 central watchman's alarm-signal, means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means connected to the service-circuit, a central fire-alarm signal, means controlled from the watchman's reporting means  
50 for operating the central fire-alarm signal, means controlled from the watchman's reporting means for preventing a particular automatic operation of the watchman's alarm-signal, a central-reply indicator at the re-  
55 porting means, and means controlled from central to operate said indicator.

54. The combination, with a plurality of electrical-energy telephones, their complete  
60 metallic service-circuits and switchboard connections, of a plurality of watchman's reporting means, one electrically connected to each of said service-circuits, a plurality of alarm-signals at central one for each service-circuit, a central recorder having a plurality  
65 of recording means each connected electric-

ally to one of the service-circuits, means controlled by said central recorder for intermittently automatically operating the alarm-signals, and means controlled by each watchman's reporting means for preventing the  
70 normal automatic operation of the corresponding central alarm-signal.

55. The combination, with a plurality of electrical-energy telephones, their complete  
75 metallic service-circuits and switchboard connections, of a plurality of watchman's reporting means each electrically connected to one of said service-circuits, a plurality of alarm-signals at central one for each service-circuit, a central recorder provided with a  
80 plurality of recording mechanisms one for each service-circuit for independently recording the operation of the reporting means of its service-circuit, means for automatically  
85 intermittently operating the alarm-signals, and means controlled by each watchman's reporting means for preventing the normal operation of the corresponding alarm-signal.

56. The combination, with a central-energy complete metallic telephone-service system, of a watchman's alarm-signal electrically  
90 connected with said system, a watchman's reporting means electrically connected to a service-circuit of said system, said reporting means comprising an independent source of  
95 electrical energy electrically connected with the said service-circuit of a different electrical characteristic.

57. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of  
100 a watchman's recording means electrically connected to said service-circuit and comprising an independent source of electrical energy, having a characteristic difference from  
105 the electrical energy of the service-circuit, a central recording means electrically connected to said service-circuit, an alarm-signal and its controlling-circuit, means for intermittently operating the alarm-signal through its  
110 controlling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

58. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
115 watchman's reporting means electrically connected to said service-circuit, and comprising an independent source of electrical energy having a characteristic difference from the  
120 electrical energy of the service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and its controlling-circuit, means forming part of the central-recording means for intermittently  
125 operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

59. The combination, with an electrical- 130

energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, and comprising  
 5 an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal, means  
 10 controlled by the central-recording means for automatically intermittently operating the alarm-signal, and means controlled by the watchman's reporting means for preventing normal operation of the alarm-signal.

60. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit and comprising  
 20 an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-  
 25 alarm signal; and electrical connections between said several parts whereby said recording means may automatically and intermittently operate the watchman's alarm-signal, and the watchman's reporting means may  
 30 serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal.

61. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
 35 watchman's reporting means electrically connected with said service-circuit and comprising an independent source of electrical energy having a characteristic difference  
 40 from the electrical energy of the service-circuit, a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; electrical connections between said several parts whereby said  
 45 recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-  
 50 signal or to operate the fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

62. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
 55 central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watch-  
 60 man's alarm-signal, a fire-relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-  
 65 signal, electrical connections between the

fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical  
 70 circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by the watch-  
 75 man's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the afore-  
 said intermittently-contacting parts, and a watchman's reporting mechanism comprising  
 80 an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit electrically connected to the service-circuit, substantially as and for the purpose set forth.

63. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
 85 central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watch-  
 90 man's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of  
 95 the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically  
 100 connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a  
 105 separable connection controlled by a watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the afore-  
 said intermittently-contacting parts, a central-reply indicator at the reporting means,  
 110 means controlled from central to operate said indicator, and a watchman's reporting mechanism comprising an independent source of electrical energy having a characteristic difference  
 115 from the electrical energy of the service-circuit electrically connected to the service-circuit, substantially as and for the purpose set forth.

64. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a  
 120 central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watch-  
 125 man's signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit,  
 130 electrical connections between the fire-alarm

relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, said circuit also consisting in part of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, the said watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, and means for reversing the connections between the watchman's reporting means and the service-circuit, substantially as and for the purpose set forth.

65. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, the said watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, the said fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, the said call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central recording apparatus consisting of recording means electrically connected with the service-circuit, and an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a signal arranged at the reporting means, an electric circuit therefor to central, and means at central for controlling said circuit, substantially as and for the purpose set forth.

66. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central watchman's alarm-signal, means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit connected to the service-circuit, means under the control of the reporting means for preventing a particular automatic action of the watchman's alarm-signal, a central fire-alarm signal, means under control of the watchman's reporting means for

operating said fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

67. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central watchman's alarm-signal, a central recording means for receiving and independently recording reports from a plurality of service-circuits, means controlled by said central-recording means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit connected to the service-circuit, a central fire-alarm signal, means controlled from the watchman's reporting means for operating the central fire-alarm signal, and means controlled from the watchman's reporting means for preventing a particular automatic operation of the watchman's alarm-signal.

68. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central watchman's alarm-signal, means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit connected to the service-circuit, a central fire-alarm signal, means controlled from the watchman's reporting means for operating the central fire-alarm signal, means controlled from the watchman's reporting means for preventing a particular automatic operation of the watchman's alarm-signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

69. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's recording means electrically connected to said service-circuit and comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and its controlling-circuit, means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

70. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, and com-

prising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal and its controlling-circuit, means forming part of the central-recording means for intermittently operating the alarm-signal through its controlling-circuit, and means controlled by the watchman's reporting means for preventing the normal operation of the alarm-signal.

71. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected to said service-circuit, and comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central-recording means electrically connected to said service-circuit, an alarm-signal, means controlled by the central-recording means for automatically intermittently operating the alarm-signal, and means controlled by the watchman's reporting means for preventing normal operation of the alarm-signal.

72. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit and comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; and electrical connections between said several parts whereby said recording means may automatically and intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal.

73. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a watchman's reporting means electrically connected with said service-circuit, and comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a central apparatus consisting of a recording means, a watchman's alarm-signal, and a fire-alarm signal; electrical connections between said several parts whereby said recording means may automatically intermittently operate the watchman's alarm-signal, and the watchman's reporting means may serve to either prevent a given automatic operation of the watchman's alarm-signal or to operate the fire-alarm signal, a central-reply indicator at the reporting means, and

means controlled from central to operate said indicator.

74. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, and a watchman's reporting mechanism comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit electrically connected to the service-circuit, substantially as and for the purpose set forth.

75. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the circuit of the call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts, and also of a separable connection controlled by a watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, a central-reply indicator at the reporting means, means controlled from central to operate said indicator, and a watchman's reporting mechanism comprising an independent source of electrical energy having a characteristic difference from the elec-

trical energy of the service-circuit electrically connected to the service-circuit, substantially as and for the purpose set forth.

76. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-signal, a fire-alarm signal, a call-signal, a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, electrical connections between the fire-alarm relay, the call-relay, and the service circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-contacting parts; said circuit also consisting in part of a separable connection controlled by the watchman's reporting means, resetting means for said recording means provided with an electrical circuit consisting in part of the aforesaid intermittently-contacting parts, the said watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, and means for reversing the connections between the watchman's reporting means and the service-circuit, substantially as and for the purpose set forth.

77. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central apparatus consisting of a watchman's alarm-relay controlling a separable connection in the circuit of the watchman's alarm-signal, the said watchman's alarm-signal, a fire-alarm relay controlling a separable connection in the circuit of the fire-alarm signal, the said fire-alarm signal, a call-relay controlling a separable connection in the call-signal circuit, the said call-signal, electrical connections between the fire-alarm relay, the call-relay, and the service-circuit, a central-recording apparatus consisting of recording means electrically connected with the service-circuit, and an electrical circuit between the central-recording apparatus and the watchman's alarm-relay, said circuit consisting in part of separable intermittently-

contacting parts, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit, a signal arranged at the reporting means an electric circuit therefor to central, and means at central for controlling said circuit, substantially as and for the purpose set forth.

78. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central watchman's alarm-signal, means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit connected to the service-circuit, means under the control of the reporting means for preventing a particular automatic action of the watchman's alarm-signal, a central fire-alarm signal, means under control of the watchman's reporting means for operating said fire-alarm signal, a central-reply indicator at the reporting means, and means controlled from central to operate said indicator.

79. The combination, with an electrical-energy telephone, its complete metallic service-circuit and switchboard connections, of a central watchman's alarm-signal, a central-recording means for receiving and independently recording reports from a plurality of service-circuits, means controlled by said central-recording means for automatically intermittently operating said watchman's alarm-signal, a watchman's reporting means comprising an independent source of electrical energy having a characteristic difference from the electrical energy of the service-circuit connected to the service-circuit, a central fire-alarm signal, means controlled from the watchman's reporting means for operating the central fire-alarm signal, and means controlled from the watchman's reporting means for preventing a particular automatic operation of the watchman's alarm-signal.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 28th day of December, A. D. 1904.

JOHN J. BERRY. [L. S.]

Witnesses:

ARTHUR M. HOOD,  
JAMES A. WALSH.