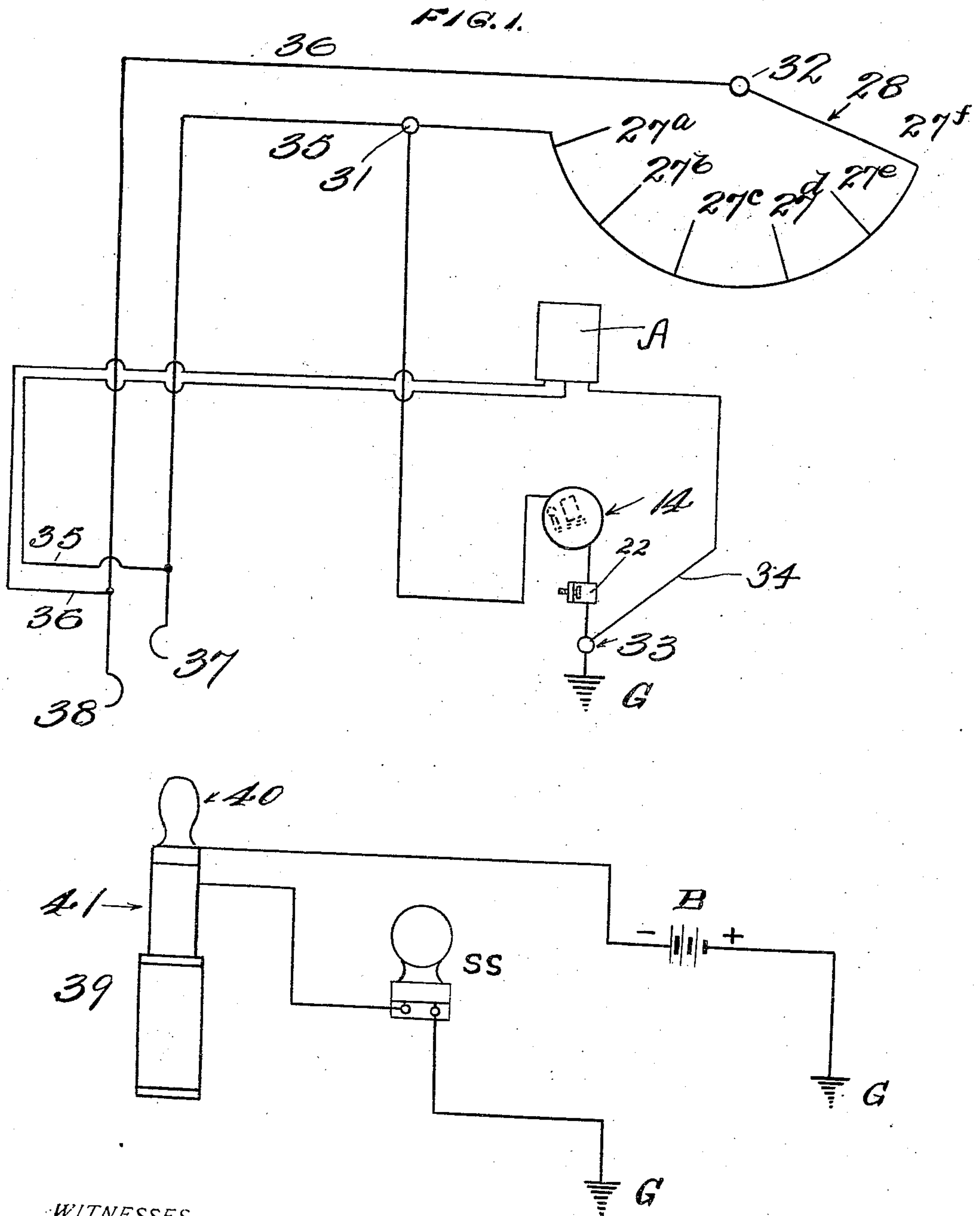


A. L. SOHM.
ELECTRIC SIGNAL SYSTEM.
APPLICATION FILED MAY 25, 1908.

954,656.

Patented Apr. 12, 1910.
2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG. 2.

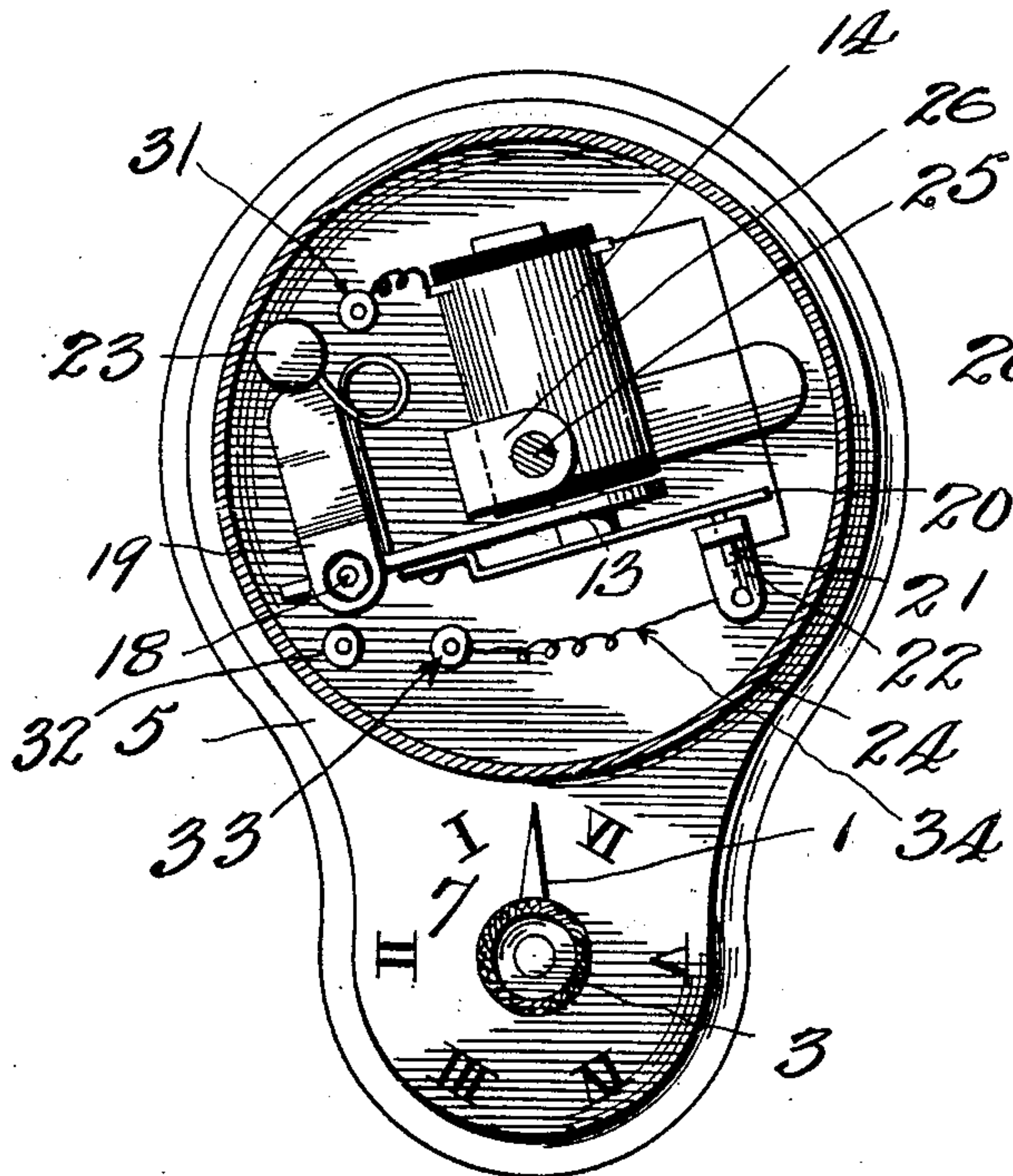


FIG. 3.

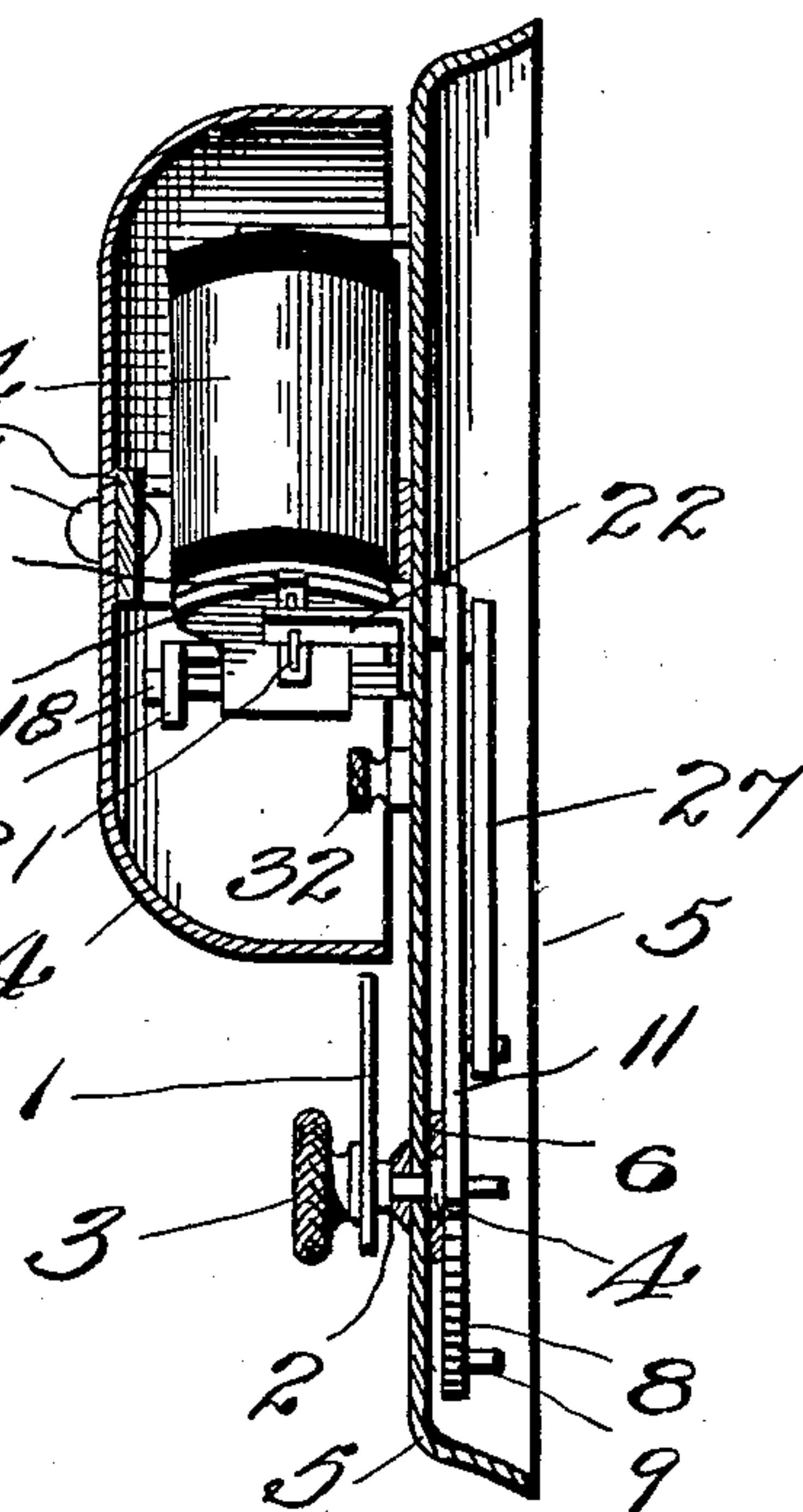
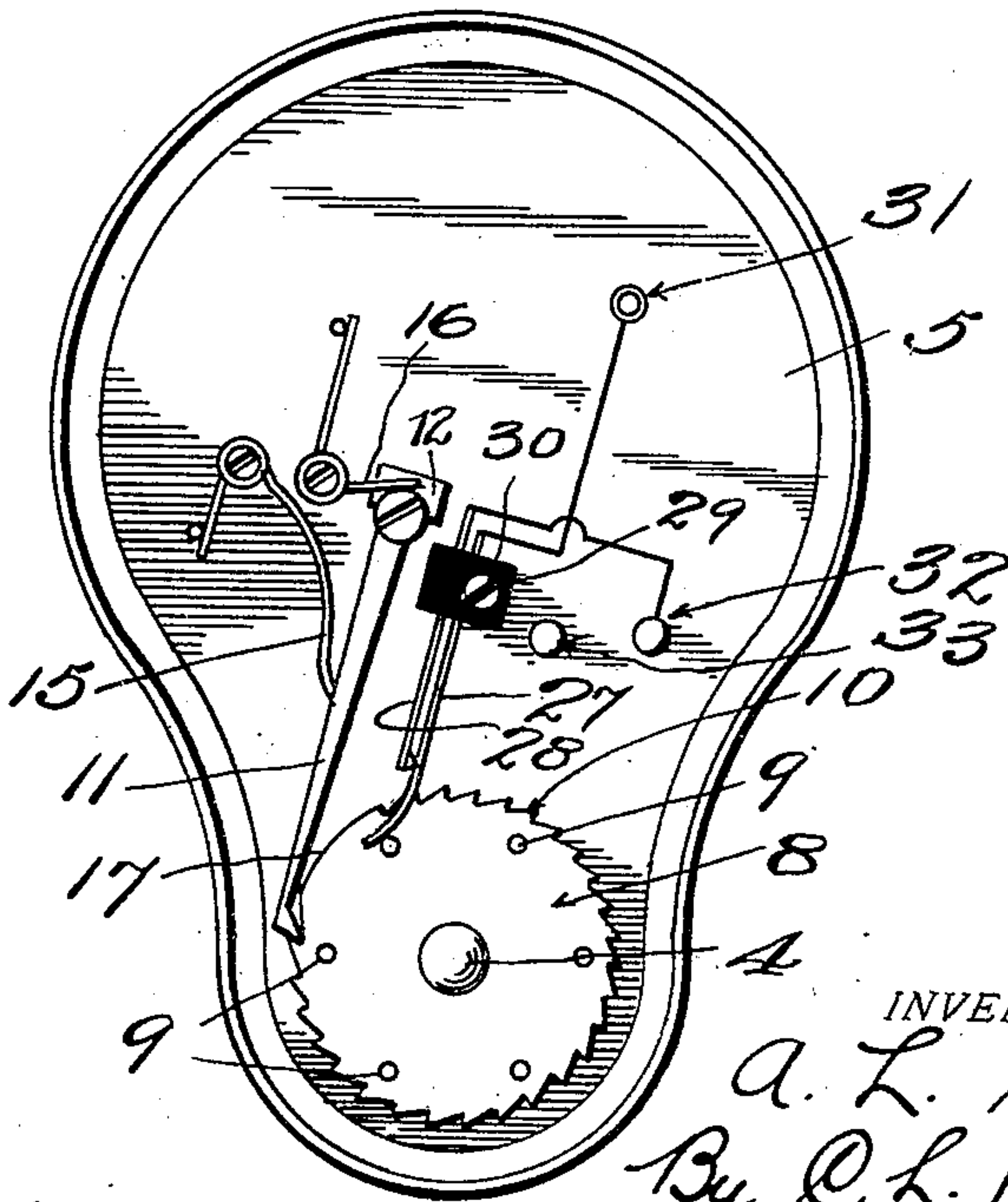


FIG. 4.



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UNITED STATES PATENT OFFICE.

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ELECTRIC SIGNAL SYSTEM.

954,656.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Application filed May 25, 1908. Serial No. 434,897.

To all whom it may concern:

Be it known that I, ALFRED L. SOHM, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Electric Signal Systems, of which the following is a specification.

This invention relates to electric signal systems and particularly refers to a signal system wherein any one of a number of calls of different significance can be sent from out-lying signal stations and be received and recognized with certainty at a central station.

In its more specific aspect the invention contemplates the provision of an electric call system by means of which subscribers can signal for a messenger, a policeman, a cab or the like more conveniently and with greater certainty than can be done by means of prior systems.

The invention also contemplates the provision of automatic means whereby a subscriber after sending in a call is notified when his signal has been received at the central station and has been noted by the attendant at such station.

The invention further contemplates as a highly important feature thereof a novel signal sending means which by a single operation or manipulation of a signaling element will automatically transmit the desired call or signal to the central station and will return said signaling element to its normal position ready for further use.

Other features of the invention will be apparent from the following description in which reference is made to the accompanying drawing in which,

Figure 1 is a diagrammatic view showing the wiring of my signal system, Fig. 2 is a top plan view partly in section of my signaling apparatus, Fig. 3 is a longitudinal sectional view thereof, and Fig. 4 is a bottom plan view of such apparatus.

In the drawing in which for purposes of illustration I have shown a preferred embodiment of my invention 1 is a hand or pointer rigidly secured to a rotatably mounted pin or bolt 2 having the knurled head 3 and a nut 4 between which and the base 5 of the device is interposed a friction washer 6.

The hand or pointer 1 is movable upon

the surface of the dial 7 which in the illustrated form of my invention is provided with numbers from I to VI, the numbers designating prearranged signal calls, as for example I designating the call for a messenger, II a call for a cab, III a call for a policeman; and the like.

Secured to the lower end of the pin or bolt 2 is a ratchet wheel or plate 8 carrying outwardly extending pins 9 corresponding in number and arrangement to the figures on the dial 7. The wheel or plate 8 is provided throughout the greater portion of its peripheral edge with ratchet teeth 10 which are engaged by a pawl 11 pivotally mounted upon a pin or screw extending through an opening 12 in the base 5 and secured to an armature 13 which is mounted adjacent the coil 14 as will be hereinafter more fully described.

The portion 17 of the peripheral edge of wheel or plate 8 is not toothed and when the pawl 11, whose reciprocation ordinarily operates to rotate the said wheel or plate, comes in contact with said smooth portion it ceases to cause further rotation of the wheel or plate.

The armature 13 is pivoted at 18 to a supporting bracket 19 and said armature carries a spring arm 20 which in moving outward from coil 14 contacts with pin 21 which is adjustably mounted in the support or bracket 22. The current is completed through the coil 14 when the spring 20 contacts with arm 21 so that when said coil is supplied with current the armature 13 will vibrate thereby causing a rapid reciprocation of the pawl 11 and the rotation of wheel or plate 8 until said pawl comes into engagement with the smooth portion 17 of the edge of said plate or wheel. Clapper 23 is secured to the armature 13 as shown and this at each vibration of the armature impinges upon the bell 24 which is secured by a pin or bolt 25 to the supporting bracket 26.

Disposed adjacent the wheel or plate 8 are spring contact arms 27 and 28 which are supported by a hard rubber plate 29 and screw 30 and are suitably insulated from the base 5 and from each other. The outer end of the arm 27 is in the path of movement of the pins 9 which are adapted to pass said arm but in so doing to press it into contact with arm 28.

It may be here stated that when the con-

tact arms 27 and 28 are brought into electrical contact, as by the rotation of the knurled head 3 of the bolt 2 a circuit is established through the signaling device and
 5 a signal is sent to the central station. When a revolution of the wheel or plate 8 is effected by the reciprocation of the pawl 11 all of the pins 9 will engage arm 27 and will signal the central station as many times as
 10 there are pins on said wheel or plate. When the hand or pointer 1 is moved clock-wise from the position shown in Fig. 2 to figure VI on the dial the smooth portion 17 is thereby moved under the pawl 11 and in the
 15 subsequent rotation of the wheel or plate 8 by the action of pawl 11 six signals will be sent to the central station. Similarly when the hand or pointer 1 is moved clock-wise to any figure of the dial the subsequent ro-
 20 tation of the wheel or plate 8 will cause a number of signals to be sent to the central station corresponding to the said figure, as for example, if hand or pointer 1 is moved to figure III the subsequent rotation of the
 25 wheel or plate will cause three signals to be sent to the central station.

The spring arms 27 and 28 lead respectively to binding posts 31 and 32. The circuit through the coil 14, armature 13 and
 30 contact pin 21 extends from binding post 31 to binding post 33 connected with bracket 22 by a wire 34.

The signaling device is connected with an annunciator or signal indicating device of
 35 any form but is preferably of the form shown in my co-pending application No. 394,385, filed September 24, 1907. I have represented conventionally an annunciator A, in Fig. 1. The lines 34, 35 and 36 from
 40 the annunciator are connected respectively with binding posts 31 and 32 as indicated in Fig. 1. In this figure 27^a 27^b 27^c etc. represent the spring 27 at the moment of its contact with the six pins 9 carried by the wheel
 45 or plate 8. When contact is established between 27 and 28 a signal is transmitted to the annunciator as has been explained.

The wires 35 and 36 entering the annunciator or signal indicator are connected
 50 as indicated in Fig. 1 with the tip spring 37 and sleeve spring 38 of suitably constructed jacks adapted to receive jack plugs 39 the tip 40 of which is connected with the bat-
 55 tery B and ground G and sleeve 41 of which is connected with a single stroke electrical bell S S of any ordinary construction and with the ground G beyond said bell.

When a signal is sent from the out-lying stations by moving the hand or pointer 1 so
 60 as to produce contact between contact arms 27 and 28 a circuit will be established through arm 28, binding screw 32 line 36 to the annunciator, through a central bat-
 65 tery, line 35, binding post 31 to contact spring 27. When, however, the signal is

received and indicated at the central station the operator will insert plug 39 into the jack with which the signaling station is connected and will thereby produce contact be-
 70 tween tip 40 and tip spring 37 and sleeve 41 and sleeve spring 38, whereupon a circuit will be established from battery B to ground G, to binding post 33, through coil 14 to binding post 31, through line 35, tip spring
 75 37, tip 40, and back to battery B. The current through coil 14 will produce the vibration of the armature 13, causing the clapper 23 to impinge upon the bell 24 also causing the rapid reciprocation of the pawl 11 and the consequent rotation of the plate or wheel
 80 8. As the plate or wheel revolves and the pins 9 produce contact between contact arms 27 and 28 a series of signals will be sent to the central station and will be indicated by a single stroke bell S S. This last men-
 85 tioned circuit will be as follows: from battery B, through ground G to a single stroke bell S S, through jack sleeve 41, sleeve spring 38, line 36, binding post 32 contact arm 28, contact arm 27 binding post 31 line
 90 35, tip spring 37, tip 40 back to battery B. It is obvious that current will be sent along the last described circuit whenever a pin 9 contacts with spring arm 27 and that the
 95 number of currents or signals will depend upon the position to which the hand or pointer 1 is moved. If said hand or pointer is moved, for example to IV four signals will be sent from the signaling apparatus and will be indicated by four strokes on the
 100 single stroke bell S S.

It will be obvious that instead of using the ground for a return circuit a common return wire may be employed.

It will also be obvious that numerous
 105 changes may be made in the details of the construction in the apparatus without departing from the spirit of my invention.

Having fully described my invention, I
 110 claim:

1. In an electric signal system, including a central station and outlying stations, signal sending means at each outlying station consisting of a wheel provided with teeth throughout the greater portion of its periph-
 115 ery, pins on said wheel corresponding in number to the number of prearranged signals, a movable contact member adapted for periodical engagement with each of said pins, a fixed contact member adapted to con-
 120 tact periodically with said movable contact member, a conductor connecting each of said contact members with a central station, an annunciator at said central station connected with said conductors, a source of current
 125 supply at said central station, a single stroke bell at said central station, means for connecting said source of current supply and said single stroke bell with the conductors leading from said two contact members, said
 130

source of current supply further being in electrical connection with an electro-magnet at each outlying station, a vibrating armature for the said electro-magnet, means connected with said armature for rotating said toothed wheel, means carried by said toothed wheel for rendering inoperative said last named means, and means associated with said armature for indicating to a signal sender that his signal is being received, substantially as described.

2. In an electric signal system, including a central station and outlying stations, signal sending means at each outlying station consisting of a wheel provided with teeth throughout the greater portion of its periphery, pins on said wheel corresponding in number to the number of prearranged signals, a movable contact member adapted for periodical engagement with each of said pins, a fixed contact member adapted to contact periodically with said movable contact member, a suitable jack located at the central station, a conductor connecting said movable contact member with the tip spring of said jack, a conductor connecting said

fixed contact member with the sleeve of said jack, an annunciator at said central station in connection with said jack, a jack plug adapted for insertion in said jack, a source of electric current connected with the tip of said jack plug, a single stroke bell connected with the sleeve of said jack plug and included in the circuit which includes said source of electric current, an electro-magnet at each outlying station in electrical communication with said source of electric current, a vibrating armature for the said electro-magnet, a pawl actuated by said armature for rotating said toothed wheel, means carried by said toothed wheel for rendering said pawl inoperative, and a bell connected with said armature for indicating to a signal sender that his signal is being received, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED L. SOHM.

Witnesses:

TRIPHAN D. HEYL,
RUTH BARKHAM.