

April 7, 1936.

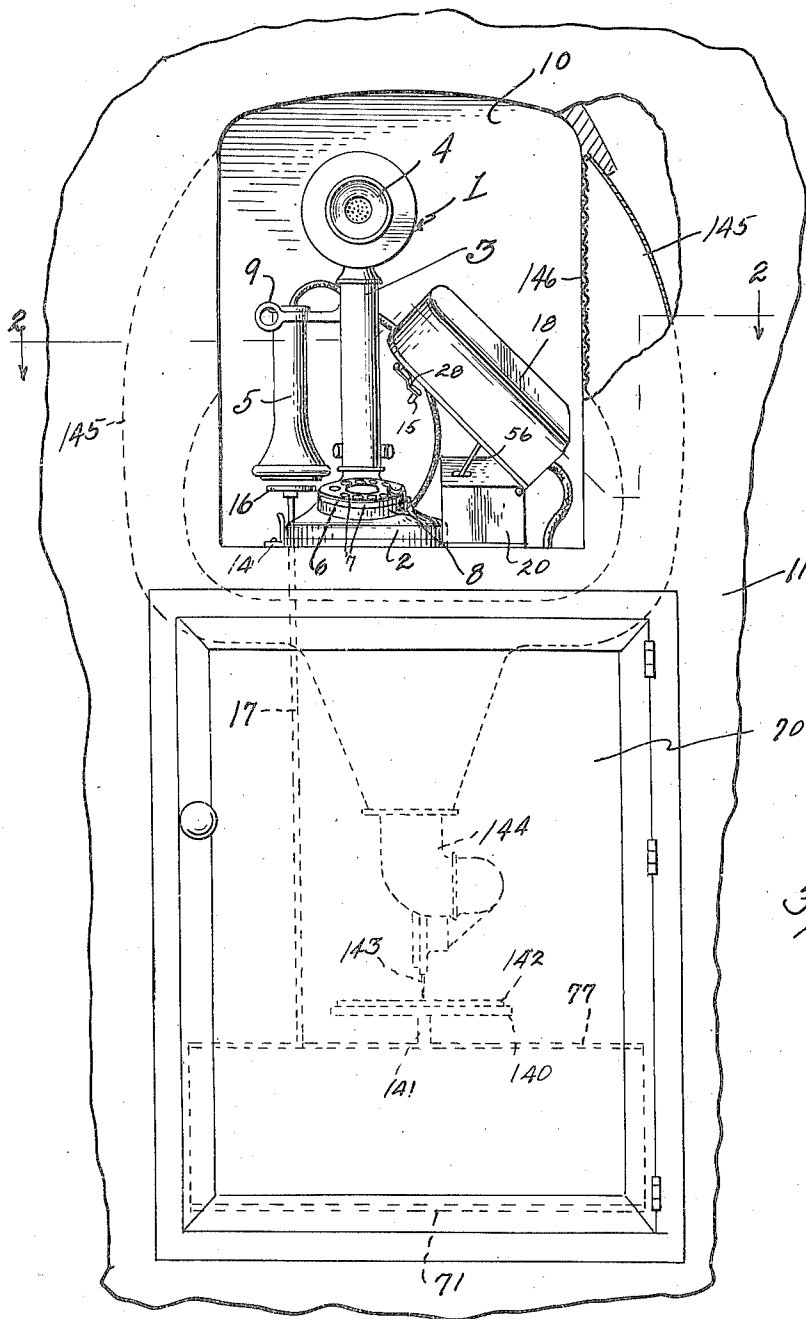
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2,036,420

SIGNAL APPARATUS

Filed June 6, 1932

5 Sheets-Sheet 1



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SIGNAL APPARATUS

Filed June 6, 1932

5 Sheets-Sheet 2

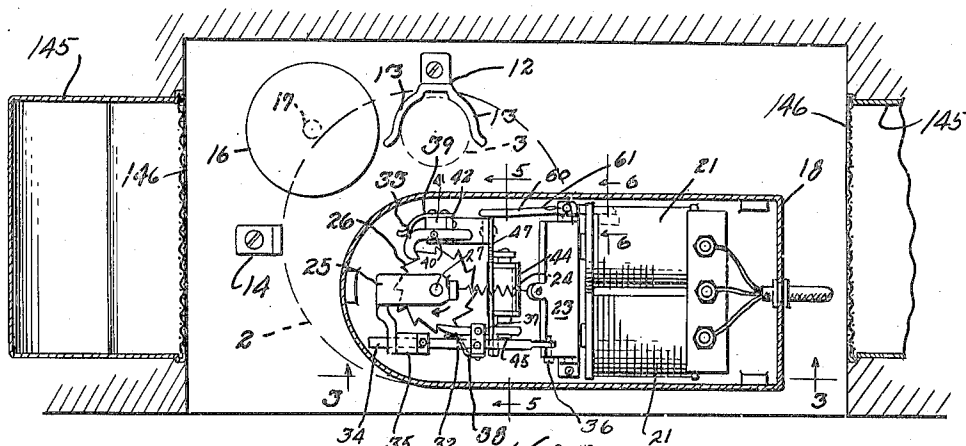


Fig. 2

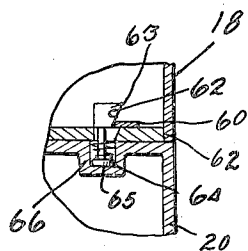


Fig. 6

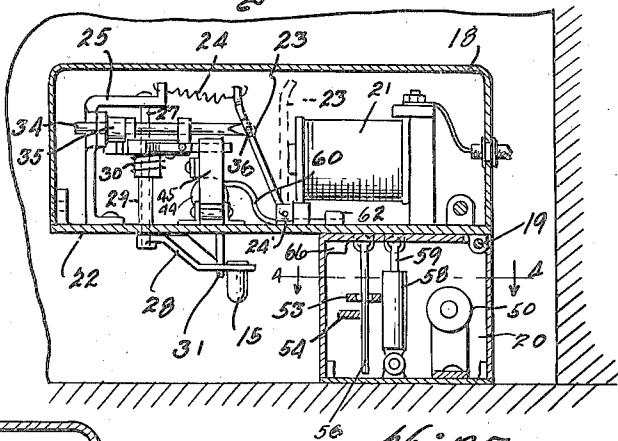


Fig. 3

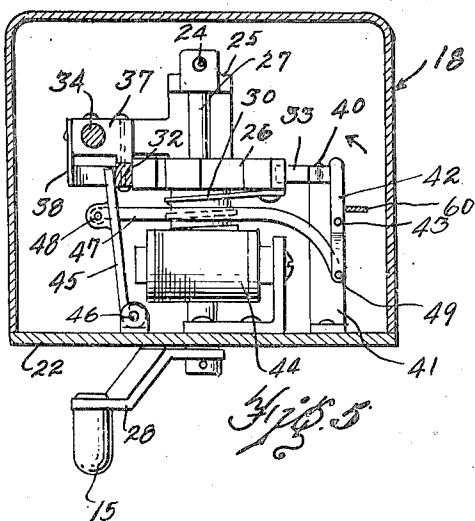


Fig. 5

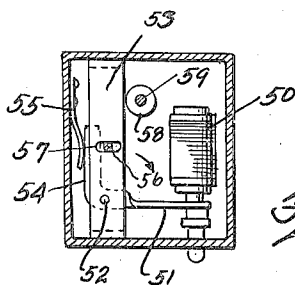


Fig. 4

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SIGNAL APPARATUS

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5 Sheets-Sheet 3

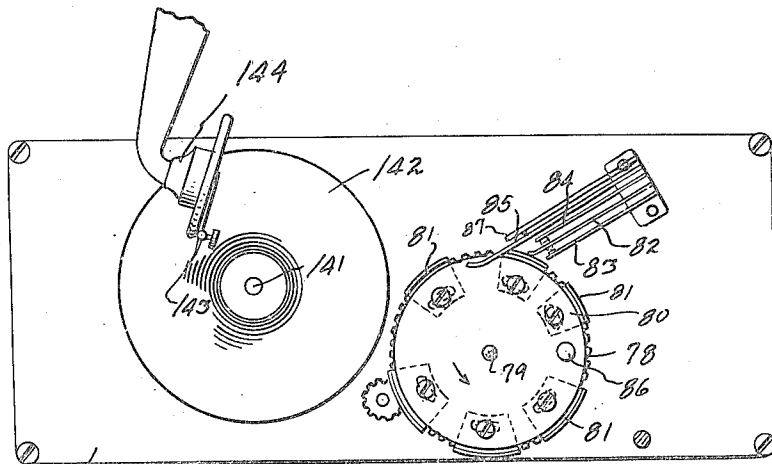


Fig. 7

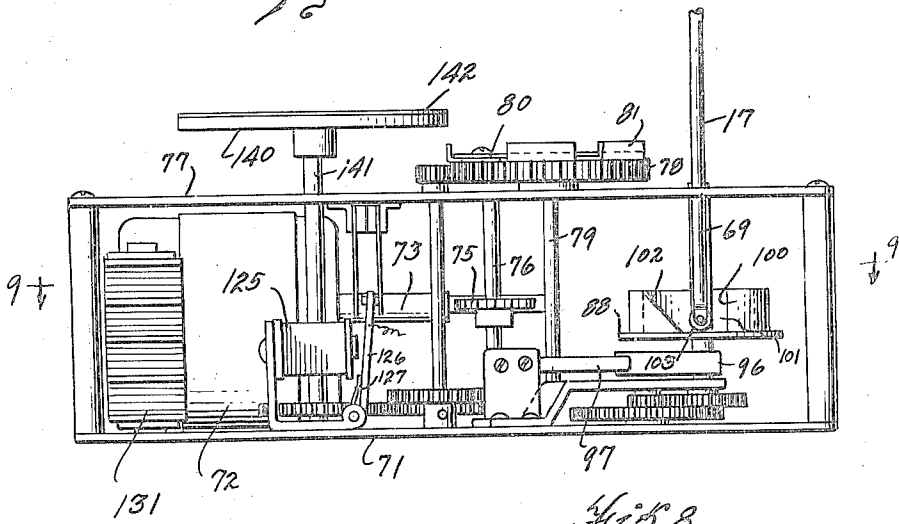


Fig. 8

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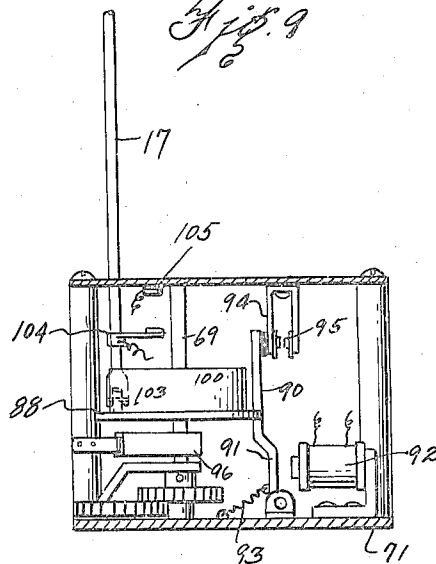
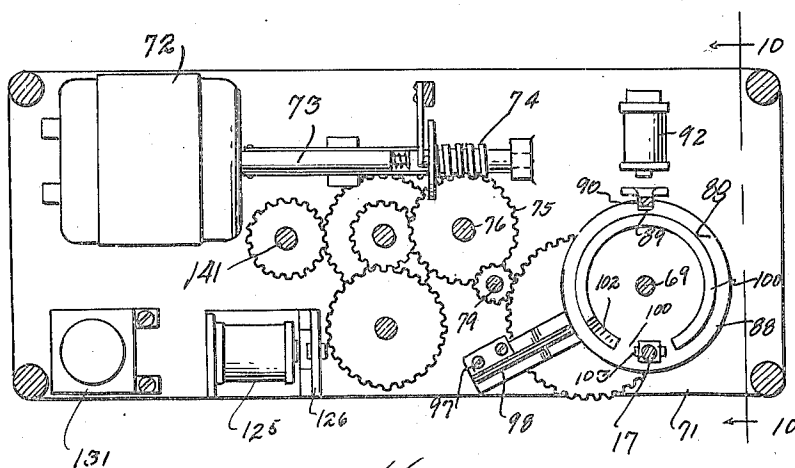
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SIGNAL APPARATUS

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5 Sheets-Sheet 4



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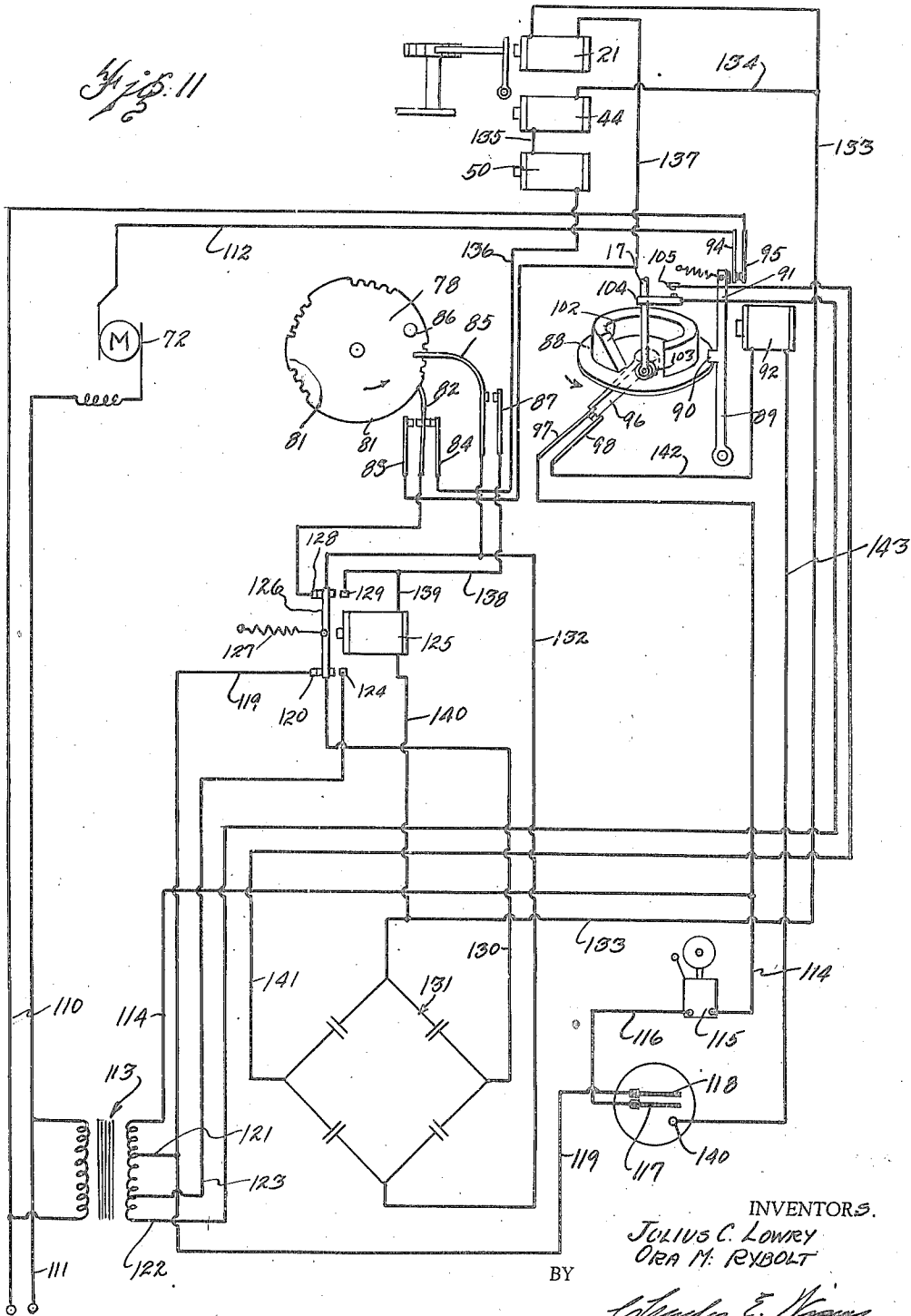
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SIGNAL APPARATUS

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5 Sheets-Sheet 5



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UNITED STATES PATENT OFFICE

2,036,420

SIGNAL APPARATUS

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Application June 6, 1932, Serial No. 615,518

7 Claims. (Cl. 179—5)

This invention relates to signal apparatus and is more particularly designed for use with a dial telephone but is not limited to such usage, and the principal feature and object of the invention resides in the provision of a device of this character which is normally out of engagement with the telephone to permit the same to be used in the usual manner but which will automatically engage the dial portion of the telephone at a predetermined time so that a predetermined number may be dialed and which is provided with means for raising the receiver to make connection with the central office prior to the dialing operation.

Another object of the invention resides in the provision of signal apparatus for use with a telephone which will automatically raise the receiver at a predetermined time to make connection with the central exchange and which will send a predetermined message through the transmitter upon raising of the receiver.

Another object of the invention resides in the provision of a signal apparatus for use with a telephone which is normally out of engagement with the telephone and which is connected with a thermally controlled circuit whereby closing of the thermally controlled circuit will automatically move the signal apparatus into engagement with the dial of the telephone and which will automatically raise the receiver to make connection with the central office and which will automatically rotate the dial to call a predetermined telephone number.

Another object of the invention resides in the provision of a signal apparatus for use with a dial telephone which is provided with a rotating finger for engaging in one of the apertures in the dial and which is positively rotated in one direction for rotating the dial and which is provided with means for automatically releasing the driving means from the finger for permitting the dial to rotate the finger back to its original starting position for permitting the succeeding numbers of the series to be dialed.

Another object of the invention resides in the provision of a signal apparatus for use with a dial telephone which is connected with a normally open circuit, the circuit being arranged to close at a predetermined time for setting the signal apparatus in operation whereby a predetermined signal or message may be sent through the transmitter of the telephone to any desired point.

These objects and the several novel features of the invention are hereinafter more fully described and claimed and the preferred form of

construction by which these objects are attained is shown in the accompanying drawings in which—

Fig. 1 is an elevational view of a dial telephone having our improved signal apparatus in position for operatively engaging the same.

Fig. 2 is a section taken on line 2—2 of Fig. 1 showing the signal apparatus operatively connected to the dial telephone.

Fig. 3 is a section taken substantially on line 3—3 of Fig. 2.

Fig. 4 is a detail sectional view taken on line 4—4 of Fig. 3.

Fig. 5 is an enlarged sectional view taken on line 5—5 of Fig. 2.

Fig. 6 is a detail sectional view taken on line 6—6 of Fig. 2.

Fig. 7 is a plan view of the control mechanism.

Fig. 8 is a side elevational view thereof.

Fig. 9 is a section taken on line 9—9 of Fig. 8.

Fig. 10 is a section taken on line 10—10 of Fig. 9.

Fig. 11 is a diagrammatic wiring view.

Referring to the drawings, the telephone 1 is of the usual type and comprises the base 2, the standard 3, the transmitter 4, the receiver 5 and the rotating dial 6 having a plurality of apertures 7 therein through which the usual various letters and numbers on the portion 8 are visible. The receiver 5 is supported on the usual arm 9 which will automatically move to make a connection with the central exchange when the receiver 5 is lifted therefrom. We have here shown the telephone 1 as being placed in a recess 10 formed in the wall 11 but it is to be understood that the telephone may be placed in any convenient location.

A bracket 12 suitably secured to the base of the recess 10 is formed with the curved bifurcated arms 13 for engaging the standard 3 of the telephone while the brackets 14 are secured to the base of the recess 10 and engage the base 2 of the telephone whereby the dial 6 will be accurately positioned at all times relative to the finger 15 when the telephone is placed in the recess 10. A disc 16 is suitably secured to the upper end of the rod 17 and is positioned just below the receiver 5 and is vertically movable in a manner to be hereinafter described to lift the receiver 5 at a predetermined time to permit the arm 9 to make connection with the central exchange. A box like housing 18 is pivotally secured at 19 to a second box like housing 20 the same being suitably secured to the base of the recess 10. The electromagnets 21 are suitably secured to the base 22 of the housing 18 and a

plate 23 is pivotally secured at 24 to the base 22 and will be drawn to the dotted line position shown in Fig. 3 upon energization of the magnets 21. A spring 24 has one end connected to the plate or armature 23 while the opposite end is connected to the standard or bracket 25 suitably secured to the base 22 and holds the armature 23 in the position shown in full lines in Fig. 3 upon de-energization of the magnets 21. A ratchet wheel 26 is mounted upon the shaft 27 to rotate therewith the shaft being rotatably mounted in the bracket 25 and in the base 22. The lower end of the shaft 27 has one end of the arm 28 suitably secured thereto while the free end of the arm has the depending finger 15 secured thereto.

A stationary sleeve 29 encircles the shaft 27 and a spring 30 has one end secured to the ratchet 26 and its opposite end to the stationary sleeve 29 and the spring is arranged to return the ratchet 26 to its original position against the stop 31 upon release of the dogs 32 and 33. A rod 34 has one end slidably mounted in the bearing 35 carried by the bracket 25 and the opposite end is pivotally connected at 36 to the armature 23. The spring pressed dog 32 is pivotally secured to the bracket 37 suitably secured to the rod 32. The spring 38 normally keeps the dog 32 in engagement with the ratchet wheel 26 while the spring 39 normally holds the dog 33 in engagement with the ratchet 26. The dog 33 is pivotally connected at 40 to the standard 41 and a releasing arm 42 is pivoted at 43 to the standard 41 and the upper end thereof engages one end of the dog 33. An electromagnet 44 is suitably secured to the base 22 and the armature 45 is positioned adjacent one end thereof and is pivotally connected at 46 to the base 22 of the housing 18. A bar 47 is pivotally connected at 48 to the armature 45 and the opposite end is connected at 49 to the lower end of the releasing arm 42. It will be seen that the upper end of the armature 45 engages behind the dog 32 so that energization of the magnet 44 will move the dog 32 out of engagement with the ratchet 26 and at the same time through the link 47 and the arm 42 the dog 33 will be moved out of engagement with the ratchet 26.

It will thus be noted that when the electromagnets 21 are energized that the armature 23 will be drawn thereto and upon de-energization of the magnets the spring 24 will move the armature to the full line position shown in Fig. 3 and during this movement the dog 32 will advance the ratchet 26 a distance of one tooth and the dog 33 will latch the ratchet and prevent return of the same. It will be seen that the finger 15 engaging in the aperture 7 will move the dial 6 in a clockwise direction a predetermined distance by mechanism to be more fully described and at a predetermined time the circuit through the magnet 44 will be closed drawing the armature 45 thereto and releasing the pawls 32 and 33 permitting the spring 30 to return the arm 28 to its original position against the stop 31. The electric circuit through the magnet 44 will then be broken allowing the dogs 32 and 33 to be forced in by the respective springs to engage the ratchet 26 for permitting a second number to be dialed. An electromagnet 50 is suitably secured to the base of the housing 20 and the armature 51 is positioned adjacent one end thereof the intermediate portion of the armature being pivotally connected at 52 to the bracket 53. The armature 51 has a flat portion 54 which extends in toward

the center of the housing 50 and is engaged by the spring 55 which tends to move the end 54 in the direction of the arrow as shown in Fig. 4. The rod 56 is pivotally connected to the base 22 of the housing 18 and extends through a suitable aperture in the top of the housing 20.

The bracket 53 is formed with the elongated aperture 57 through which the rod 56 extends and when the housing 18 is in its raised position, as shown in Fig. 1, the lower end of the rod 55 will rest on the portion 54 of the armature and will hold the housing 18 in its raised position whereby the finger 15 is out of engagement with the aperture 7 in the dial 6 permitting the telephone 1 to be removed from the recess 10 for convenient use thereof. The spring 55 will normally hold the portion 54 under the lower end of the rod 56 but upon energization of the electromagnet 50 by a mechanism to be hereinafter described the armature 51 will be drawn toward the core of the magnet 50 and will move the armature to the position shown in Fig. 4 whereupon the housing 18 will drop down to the position shown in Fig. 3 permitting the finger 15 to engage the correct aperture 7 in the dial 6. Inasmuch as when the housing casing 18, when lowered to position remains in such lowered position during the dialing, the finger may conveniently engage the last of the series of apertures 7 of the dial and then remains in said aperture during the dialing operation by means of the ratchet wheel 26. A dashpot 58 is pivotally secured to the base of the housing 20 and the plunger 59 thereof is pivotally secured to the base 22 of the housing 18 so that the housing 18 will be lowered gradually to prevent damage to any of the different parts of the mechanism. An arm 60 is pivotally connected at 61 to the base 22 and one end thereof engages the release arm 42 while the opposite end is engaged by the beveled surface 62 of the spring pressed plunger 63. A spring 64 surrounds the plunger 63 and the upper end abuts the base 22 while the lower end abuts the enlarged head 65 of the plunger, the same fitting in a recess 66 in the upper surface of the housing 20.

It will thus be noted that as the housing 18 is raised that the spring 64 will force the plunger 63 downwardly and move the bar 60 about the pivot 61 and the end thereof engaging the release arm 42 will move the release arm 42 and the armature 45 so that the dogs 32 and 33 will be moved out of engagement with the ratchet wheel 26. The arm 28 may be freely rotated when the housing 18 is in its raised position but will always return to its original starting point by action of the spring 30. It will thus be noted that if anyone should accidentally move the arm 28 that no damage will be done and the finger 15 will always be in its proper relationship relative to the disc 6. Upon release of the armature 51 for permitting the housing 18 to fall by gravity to engage the dial the plunger 63 will be raised by coming into contact with the upper surface of the housing 20 and will permit the springs for the respective pawls 32 and 33 to again move the pawls into engagement with the ratchet whereupon the parts are in position to dial a predetermined number. The control mechanism is preferably positioned in a recess in the wall 11 below the recess 10 the recess thereof being preferably closed by the door 70. The control mechanism is preferably mounted upon the base 71 and comprises an electric motor 72 having a drive shaft 73 the same being formed

with a worm 74 meshing with the worm gear 75 mounted upon the vertical shaft 76.

A plate 77 is held in superimposed relation to the base 71 and a gear or serrated disc 78 is positioned above the plate 77 and is mounted upon a rod 79 carried in suitable bearings in the base 71 and the plate 77. A disc 80 of slightly smaller diameter than the gear 78 is positioned thereabove and a plurality of segments 81 are positioned in the space between the gear 78 and the disc 80 and it will be noted by referring to Fig. 7 that the segments 81 extend slightly beyond the outer periphery of the serrations or teeth of the gear 78. It will be further noted that the segments may be positioned at different places around the periphery of the gear 78 to permit different numbers to be dialed. A spring arm 82 has one end engaging in the teeth in the gear 78 and an electrical contact 83 is positioned adjacent the arm 82 and the arm will close the circuit through the arm 83 when the arm 82 is between the teeth of the gear 78 but as the gear rotates in the direction of the arrow shown in Fig. 7 then contact between the arms 82 and 83 will be broken by the teeth. When each of the segments 81 strike against the arm 82 the contact with the arm 83 will not only be broken but a contact will be made between the arms 82 and 84. A spring pressed arm 85 is positioned above the disc 80 and is adapted to be engaged by the insulated block 86 secured to the disc 80. When the insulated block 86 strikes the arm 85 contact will be made between the arm 85 and the contact 87 for a purpose to be hereinafter described.

A disc 88 is mounted upon the shaft 69 extending between the plate 77 and the base 71 and is formed with a notch 89 which is engaged by an arm 90 extending from the armature 91, the same being actuated in one direction by the electromagnet 92 against the action of the spring 93. A pair of contact members 94 and 95 are positioned adjacent the arm 90 and upon energization of the magnet 92 and the consequent moving of the armature 91 a contact will be made between the contact members 94 and 95, likewise for a purpose to be hereinafter described. An arm 96 is also secured to rotate with the shaft 69 and is adapted to strike against the contact 97 to move the same into contact with the spring pressed arm 98 at the time that the lug 90 is in registration with the groove 89 so that the disc 88 may be continuously kept rotating as will be more fully described. A cylindrical member 100 is suitably secured to the disc 88 and is formed with the opening 101 one edge of the opening being beveled at 102 as is more clearly shown in Figs. 8 and 11. The lower end of the rod 17 has the roller 103 pivotally mounted thereon the same being aligned with the cylindrical portion 100 and the beveled face 102. It will thus be noted that as the disc 88 rotates in the direction of the arrow shown in Fig. 11 that the beveled surface 102 will raise the rod 17 and will hold the same in its raised position until the opening 101 comes into alignment therewith whereupon the rod will fall by gravity and the roller 103 will ride on the disc 88 until the disc is again rotated whereupon the rod 17 will again be lifted as heretofore described.

The contact arm 104 is secured to the rod 17 and when raised will strike the contact 105 thereby closing an electrical circuit for a purpose to be hereinafter described. It will be understood that the gear 78 and the disc 88 will be rotated by the worm 74 and the worm gear 75 through a suitable train of gears as shown in Figs. 8 to 10

inclusive. It will be understood that the disc 88 will rotate relatively slow in comparison to the gear 78 the disc 88 making one revolution while the gear 78 is preferably making ten revolutions.

Referring now to the wiring diagram shown in Fig. 11 the wire 110 has one end connected to a source of current supply (not shown) and the opposite end to the contact 95 and the wire 111 has one end connected to the opposite source of current supply and the opposite end connected to the motor 72. A wire 112 is connected to the motor 72 and to the switch arm 94. The transformer 113 has the primary winding thereof connected to the wires 110 and 111. The wire 114 is connected to one side of the secondary winding of the transformer and the opposite end is connected to the bell 115 or any other suitable signaling device. A wire 116 is connected to the opposite terminal of the signaling device 115 and to the bimetal element 117.

A second bimetal element 118 is in spaced relation to the element 117 and has one end of the wire 119 connected thereto the opposite end of the wire being connected to the contact 120. The wire 121 is connected to the wire 119 and to the secondary winding of the transformer 113 intermediate its outer ends. A wire 122 has one end connected to the outer terminal of the secondary winding of the transformer 113 and the opposite end to the contact 104. A wire 132 has one end connected to the secondary winding of the transformer 113 intermediate the ends thereof the opposite end being connected to the contact 124. An electromagnet 125 is suitably secured to the base 71 and the armature 126 is normally held away from the core of the magnet by the spring 127 and the contacts 120 and 128 are closed by the armature 126 when the electromagnet 125 is de-energized and while the contacts 124 and 129 are closed by the armature upon energization of the electromagnet. The wire 130 has one end connected to the rectifier 131 for changing alternating current to direct current the opposite end of the wire being connected to the armature 126 and the wire 132 is connected to the opposite terminal of the rectifier 131. A wire 133 has one end connected to the rectifier while the opposite end is connected to the electromagnet 21 and the wire 134 is connected to the wire 133 and to the electromagnet 144 while the wire 135 connects the electromagnet 44 to the electromagnet 50.

The wire 136 is connected to the electromagnet 50 and to the contact arm 84 and the wire 137 is connected to the electromagnet 21 and to the contact arm 83. A wire 138 is connected to the contact 129 and to the contact arm 87 and a wire 139 is connected to the wire 138 and to the electromagnet 125. A wire 140 is connected to the electromagnet 125 and to the wire 133. A wire 141 leads from rectifier to the terminal 105. A wire 142 is connected to the electromagnet 92 and to the terminal 97 and a wire 143 is connected to the electromagnet 92 and to the contact 140 positioned adjacent the bimetallic element 117. It will thus be noted that in the event of a rise in temperature above a predetermined point that the bimetallic element 118 will bend and contact the element 117 thereby closing the circuit through the signal 115 giving warning of a dangerous rise in temperature. If the temperature continues to rise above a second predetermined point then the bimetallic element 117 will bend and make contact with the post 140 closing the circuit through the electromagnet 92 as the contacts 97 and 98 are at this time closed by the

arm 96. The armature 91 will be moved over toward the electromagnet 92 disengaging the arm 90 from the notch 89 in the disc 88. Movement of the armature will close the circuit through the contacts 94 and 95 and complete the circuit through the motor 72 starting the same to operate and rotating the gear 78 and the disc 88.

One of the segments 81 will be in a position to strike against the arm 82 soon after the gear 78 starts to rotate and will move the arm 82 over into contact with the arm 84 closing the circuit through the electromagnet 50 and the electromagnet 44. It will thus be seen that energization of the magnet 50 will move the portion 54 of the armature 51 out from under the rod 56 allowing the casing 13 to fall by gravity to the position shown in Fig. 3 and the finger 15 will engage in the correct aperture 7 in the disc 6. Energization of the magnet 44 will move the armature 45 over into contact with the core of the magnet and will hold the dogs 32 and 33 out of engagement with the ratchet 26. After the first segment 81 has moved by the arm 82 the end of the arm 82 will spring into the serrations or teeth in the gear 78 and the teeth will form a make and break between the contacts 82 and 83 and when the contact is made the circuit will be closed through the electromagnet 21 and will draw the armature 23 over to the core of the magnet. When the high point of the tooth moves the arm 82 out of contact with the arm 83 the circuit through the magnet 21 will be broken and since the dogs 32 and 33 are in a position to engage the ratchet 26 as the circuit through the magnet 44 has been broken then the spring 24 will move the armature 23 away from the magnet 21 and the dog 32 will move the ratchet 26 a distance of one tooth and the dog 33 will engage the next tooth to prevent the spring 33 from returning the ratchet to its normal position.

This movement of the ratchet will rotate the arm 28 and the finger 15 and move the dial 6 a distance corresponding to the distance between two apertures therein. When the next tooth in the gear 78 again breaks contact between the arms 82 and 83 the ratchet 26 and the dial 6 will be advanced another step. This will continue until the next segment 81 strikes the arm 82 breaking the circuit through the arms 82 and 83 and moving the arm 82 into contact with the arm 84 again closing the circuit through the magnets 50 and 44. Energization of the magnet 50 will have no effect upon the operation of the device as the housing 18 is already in its lowered condition but energization of the magnet 44 will move the armature 45 to release the dogs 32 and 33 from the ratchet 26, allowing the dial 6 to be returned to its normal position thereby giving the correct number of electrical impulses through the telephone circuit so that a selector (not shown) at the central exchange (not shown) will be picked up in the usual manner. After the segment 81 has passed by the arm 82 a second series of impulses will be given to the magnet 21 and a second number will be dialed. This will continue until the complete series of numbers has been dialed which will take place in one revolution of the gear 78. It will be noted that by moving the segments 81 to the different positions to blank off different teeth of the gear 78 that any number may be dialed by properly setting the discs in the segments 81.

It will be seen that since the disc 88 is put in rotation at the same time as the gear 78 that the beveled face 102 of the ring 100 will raise the rod

69 and will close the contacts 104 and 105 while the disc 16 on the end of the rod 17 will lift the receiver 5 so that the arm 9 is free to raise in the usual manner to close the telephone circuit to the central exchange. When the contacts 104 and 105 are closed by raising of the rod 17 the circuit through the filter 131 will be closed. It will thus be noted that when the contacts 104 and 105 are opened that there will be no current flowing through any of the electromagnets. After the gear 78 has made one revolution the post 86 will strike the arm 85 and move the same over to contact the arm 87 completing the circuit through the electromagnet 125 and energizing the same and pulling the armature 126 over to the core of the magnet thereby breaking the circuit through the contacts 120 and 128 so that the make and break between the contacts 82 and 83 will have no effect upon the electromagnet 21 so that the armature 23 will remain stationary during further rotations of the gear 78. The armature 126 will, when moved over to the core of the magnet 125, close the circuit through the contacts 124 and 129 and will drop the voltage of the current passing through the magnet 125 and through the filter 131. The disc 140 which is suitably secured to the shaft 141 will be rotating when the motor 72 is put in operation and a record 142 having any desired message inscribed therein will be engaged by the needle 143 carried by the usual reproducing mechanism 144.

The sound will be carried through the tunnels 145 formed in the wall 11 and into the recess 10 through the grilles 146 and will be heard through the transmitter 4 of the telephone. Any suitable type of repeater (not shown) may be placed on the record 142 to carry the needle from the inner groove of the record back to the outer groove or starting point so that the message will be continuously repeated as long as the disc 140 is rotating. After the gear 78 has made approximately ten revolutions the disc 88 will have made approximately one revolution and the rod 17 will drop down into the notch 101 in the cylindrical member 100 and will break the circuit through the rectifier 131 and consequently through the electromagnet 125 allowing the spring 127 to retract the armature 126 to the position shown in Fig. 11. The motor circuit, however, will be closed as long as the bimetal elements 118 and 117 are in engagement with the contact 140 so that the disc 88 and the gear 78 are continuously rotating and since the armature 126 closes the circuit between the contacts 120 and 128 the circuit to the magnet 21 will again be completed by the arm 82 engaging in the serrations or teeth in the gear 78 as was heretofore described so in the event that the telephone that was dialed was busy or the phone was not answered the number will again be dialed and the message repeated. This will keep up indefinitely as long as the circuit through the motor is closed.

It is necessary therefore that the central exchange operator plug out the line from the telephone to which the signal apparatus is connected after the message has once been given as the device will keep continuously dialing the desired number until the circuit through the bimetal elements 118 and 117 is broken or until the main switch is thrown in the building in which the device is installed.

Having thus fully described our invention, its utility and mode of operation, what we claim

and desire to secure by Letters Patent of the United States is—

1. A device of the character described for use with a telephone having a receiver, a transmitter, and a manually operable dial, comprising thermally controlled means for raising the receiver to make connection with a central exchange, means for rotating the dial to call a predetermined telephone number after raising of the receiver, said means being hingedly mounted and manually movable to non-operative relation with the dial, and an electrically controlled means for holding the said hingedly mounted means in the raised position operable upon energization to release the said means to movement by gravity to operative position with the dial, and means for sending a predetermined message through the transmitter after raising of the receiver.

2. A device of the character described for use with a telephone having a receiver, a transmitter and a manually operable dial including a rotating disc having an aperture, comprising a means for raising the receiver to make connection with a central exchange, means for rotating the dial disc to call the desired telephone number, said dial rotating means including a member rotatable on the dial axis, a finger connected therewith for engagement in the apertured disc to turn the same a predetermined distance to dial successive digits of the telephone number to be called, said dial rotating means being normally out of engagement with the dial, electrically controlled means energizable through the raising of the receiver for moving the dial rotating finger to position in the said aperture to rotate the dial disc at a predetermined time.

3. A device of the character described for use with a telephone having a receiver, and a manually operable dial, comprising thermally controlled means for lifting the receiver to make connection with a central exchange, automatic means normally out of engagement with the dial for operating the same, electrically controlled means for moving the said automatic means into engagement with the dial at a predetermined time, and means for setting the automatic means in operation after its engagement with the dial for dialing a predetermined telephone number, said means including a rotatable toothed element for making and breaking a circuit, and means for blanking certain of the teeth about the periphery whereby any predetermined telephone number may be called.

4. A device of the character described for use with a telephone having a receiver, a transmitter, and a manually operable dial comprising thermally controlled means for lifting the receiver to make connection with a central exchange, automatic means manually movable to position out of engagement with the dial, electrically controlled means for moving the said automatic electrically controlled means into engagement with the dial at a predetermined time, means for setting the automatic means in operation after its engagement with the dial for dialing a predetermined telephone number, said means including a rotatable toothed element for making and breaking a circuit, and means for blanking

certain of the teeth about the periphery whereby any predetermined telephone number may be called and means for sending a predetermined message through the transmitter after raising of the receiver.

5. A device of the character described for use with a telephone having a receiver, and a manually operable dial comprising a rotatable arm having a portion for engaging the dial to rotate the same, means for positively rotating the arm in one direction a predetermined distance, means for releasing the said rotating means after the arm has traveled a predetermined distance, to permit the dial and the arm to return to their initial position, a housing carrying said arm and rotating and releasing means therefor, said housing being mounted to be manually moved to position out of engagement with the dial and thermally controlled means for raising the receiver to make connection with a central exchange prior to actuation of the said rotating means and then to move the said housing to position the said rotatable arm with the said dial engaging portion thereof in engagement with the dial.

6. A device of the character described for use with a telephone having a receiver, and a manually operable apertured dial comprising a housing, a rotatable arm positioned below and supported by the housing having an extension for engaging in one of the apertures in the dial, means in the housing for rotating the arm in one direction, a second means also in the housing for releasing the first said means at a predetermined time to permit the dial and arm to return to their initial position, said housing being movably supported and normally positioned with the rotatable arm out of engagement with the dial and electrically controlled means for raising the receiver to make connection with a central exchange and then moving the housing to position the arm and actuating the same to turn the dial.

7. A device of the character described for use with a telephone having a receiver, a transmitter, and a manually operable apertured dial comprising a housing, an arm positioned below the housing and rotatable about an axis, having a portion for engaging in one of the apertures in the dial, means in the housing for positively rotating the arm in one direction a predetermined distance, means also in the housing for releasing the said rotating means after the arm has traveled a predetermined distance to permit the dial and the arm to return to their initial position, said housing being manually movable to inoperative position, electrically controlled means for holding the same in inoperative position, means for lifting the receiver to make connection with the central exchange thereby energizing the electrically controlled means to release the housing to move by gravity to operative relation with the dial and the electrically controlled means in the housing, and means for sending a predetermined message through the transmitter after raising the receiver.

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