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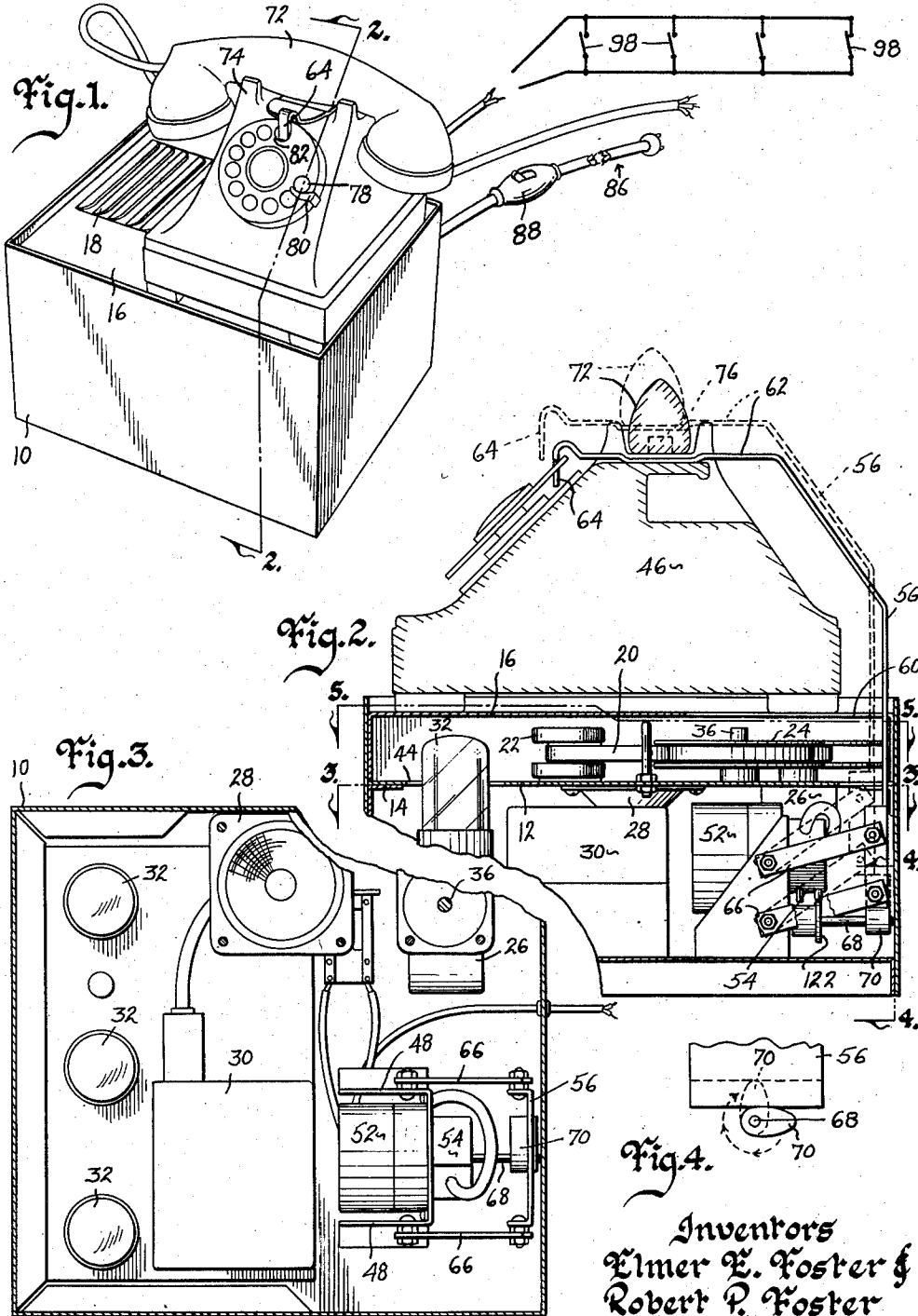
E. E. FOSTER ET AL

2,768,239

ALARM SYSTEM

Filed May 11, 1953

2 Sheets-Sheet 1



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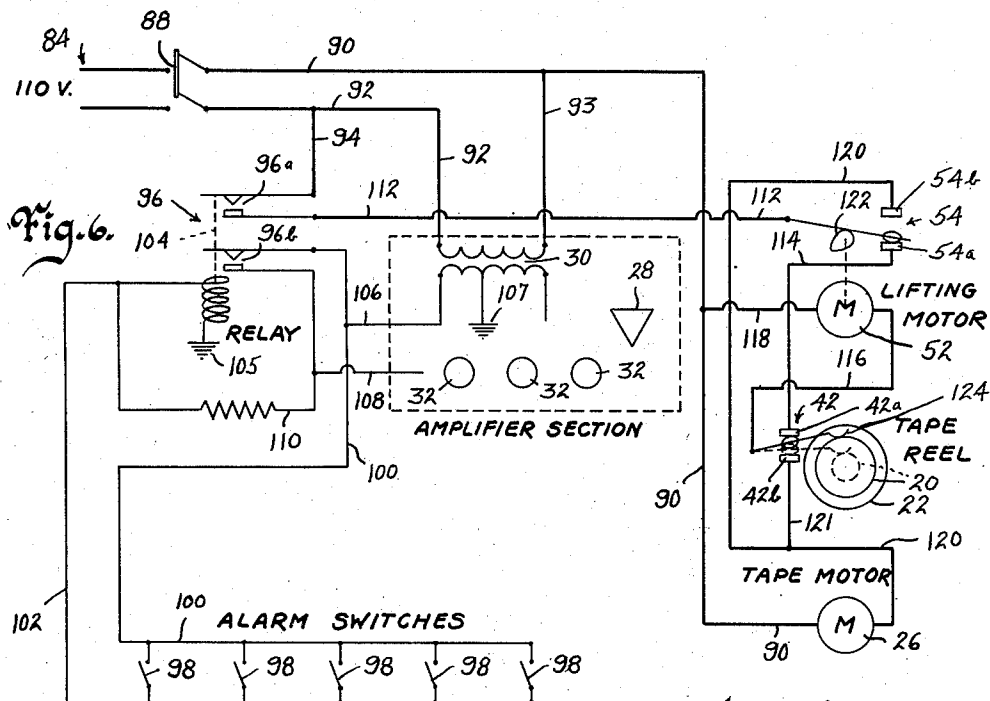
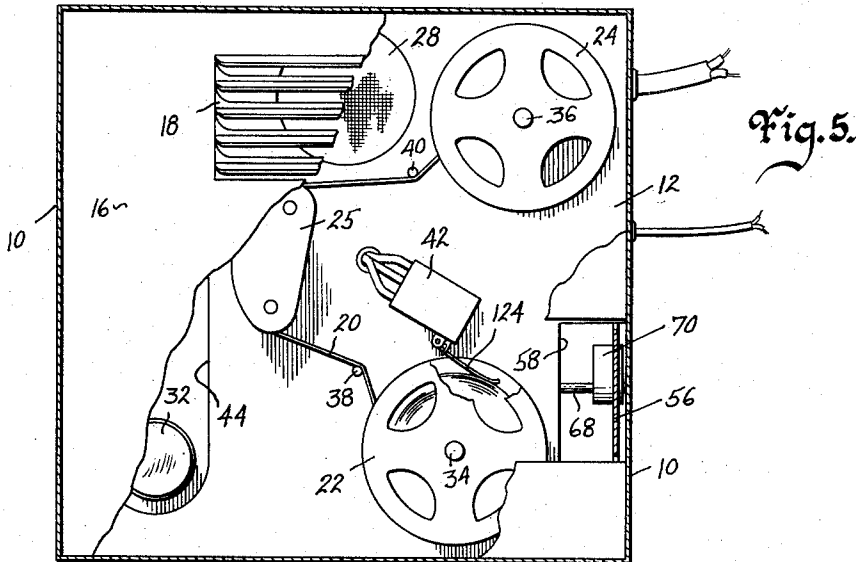
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ALARM SYSTEM

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Application May 11, 1953, Serial No. 354,078

13 Claims. (Cl. 179—5)

Our invention relates to improvements in alarm systems such as may be employed in regard to fire, burglary, flood and the like.

We have observed in the many and varied types of alarm systems now in use, certain characteristics which are common to many of them and which if eliminated would enhance their efficiency and materially reduce their cost and maintenance for those who are to benefit by their use. In this respect, in a burglar alarm system, for example, it is well known that private police or protection agencies serve a multitude of clients by a special network of wires connected to a central office and to the place of business or home of the respective clients. The actuation of the alarm usually produces a visual signal as a light, an audible buzz or ring, printed indicia on a tape, or the like, so identified in a central office of the agency as to indicate its source. In such a system, it will be obvious that the cost of special wiring perhaps leased from the telephone company, or otherwise, must be considered in determining the rate for the service. And frequently, special wiring of doors, windows, and the like, may also be required as a part of the system. Such agencies may and usually do provide personnel to perform certain services in response to an alarm but also, the agency transmits the alarm to the local police department for obvious reasons. In the case of fire alarms, the system is substantially the same with the agency transmitting the alarm to the local fire department. Of course, both fire and police departments may receive such alarms from separate alarm systems of their own that generally serve an entire area rather than a specific location and which may not become actuated as soon as a private system. Since it is highly desirable, and generally necessary as in the case of insurance claims, to notify the local fire or police department, as the case may be, in a particular emergency, the means of doing so appear to be, a private alarm service with a protection agency, use of fire or police alarms strategically placed for use by the public, telephone, personal contact, or a private alarm direct from the source to the particular department concerned. Institutions such as banks often employ a private alarm direct to the police department, for example, but it is pointed out that while the private alarm, or agency service provides promptness by having an actuating means at the site, it entails certain added costs from the use of special wiring systems. On the other hand, the use of alarms provided for the public or a personal telephone call eliminate the special costs but lack the element of promptness since the emergency concerned must come to someone's attention who thereafter gives the alarm, and often the emergency may be out of hand before it comes to someone's attention.

Another characteristic of alarm systems which we have observed is that many of them involve intricate wiring arrangements integrally associated with a particular objective and location. Thus the cost of expanding the coverage may be substantial and in the event of a change

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in location, an entire new system may have to be installed at the new place.

Therefore, with these observations in mind it is the general aim of our invention to provide an alarm system that is actuated automatically at the source of an emergency such as fire, burglary, flood or the like and which utilizes the ordinary and usual facilities of the local telephone service for the transmitting of the alarm to the desired source of help such as the fire or police department.

More particularly our invention is employed with a dial telephone station and provides a device having a finger or arm together with a sound track on which can be placed any desired communication that will be transmitted through an amplifier which will be within range of the mouthpiece on the telephone. The arm is designed to hold the dial in a position that will, when released, connect with an operator on the telephone switchboard in the customary manner and upon activation of this alarm, the receiver of the telephone is lifted by the arm which at the same time releases the dial to call operator. Thereafter the sound track begins to operate and delivers whatever message has been placed thereon to the mouthpiece of the receiver. After a predetermined interval, the arm is actuated to return the receiver so as to open the telephone circuit.

Another object of this invention is to provide an alarm system of the above class which can be used to transmit information on any desired set of circumstances by merely providing such information on a sound track.

Still another object of this invention is to eliminate the necessity of a special wiring network in an alarm system by using the ordinary facilities of telephone communication.

A further object of our invention is to provide an alarm system that can quickly, easily and economically be moved from one location to another.

A still further object of this invention is to provide an automatic alarm that uses the facilities of an ordinary telephone station in a usual manner for the transmitting of a message, but which, when not in operation, does not affect the telephone circuit.

Other objects of our invention embody an automatic alarm system as above described that is compact in arrangement, portable, efficient in use and economical to maintain.

These and other objects will be apparent to those skilled in the art.

Our invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, and specifically pointed out in our claims, and illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a preferred embodiment of our invention shown associated with a table model or French telephone,

Fig. 2 is a cross sectional view of this alarm device taken on the line 2—2 of Fig. 1,

Fig. 3 is a plan view taken from the line 3—3 of Fig. 2,

Fig. 4 is a fragmentary elevational view taken from the line 4—4 of Fig. 2 to illustrate the cam means for raising the lifting arm,

Fig. 5 is a top view of this device taken from the line 5—5 of Fig. 2 with portions cut away to more fully illustrate the arrangement of parts, and

Fig. 6 is a wiring diagram showing the electric circuit used with this invention.

Referring to the drawings we wish to point out that the novelty of this invention resides in the arrangement and combination of elements whose detailed construction and functions are well known in the art and which are there-

fore illustrated, as will later appear, in a representative capacity rather than in mechanical details for which no invention per se is claimed. In this respect, reference is made to such items as switches, relays, motors, amplifier, sound track and the like. This invention embodies a novel combination of an alarm system which delivers a recorded message through a regular telephone station to a switchboard operator, who, it is assumed, will transmit the message to the destination indicated and the drawings illustrate a preferred embodiment of this invention which is described more in detail as follows.

Our alarm mechanism is compactly arranged in a suitable open top box-like housing 10 (Fig. 1) and may be formed of any desired material such as wood, metal, plastic or the like. For the purpose of compactly utilizing all space within housing 10 and to allow convenient access thereto for adjustment and repair, a removable shelf 12 which carries part of the system, as will later appear, is disposed in the upper portion of housing 10 on suitable brackets 14 as shown in Fig. 2. Also a removable top member 16, having the louver or grill portion 18 is provided for the top of housing 10. A suitable sound mechanism for delivering an audible recorded message, when actuated, is used in our system and while any one of several available mechanisms of this type may be used, we have employed a sound tape 20 contained on a feed reel 22 and used with a take-up reel 24 and magnetic pick-up 25. Associated with tape 20 is a tape reel motor 26, an amplifier 28, transformer 30, and tubes 32 which are electrically connected in a manner well known in the art that will be further explained later in reference to the wiring diagram of Fig. 6. The arrangement of the several essential elements in the sound mechanism within housing 10 can be in any desired manner but for purposes of compactness we illustrate a preferred arrangement as follows. The tubes 32 and transformer are placed in the bottom of housing 10 so as to occupy approximately one-half of the area as shown in Fig. 3. On the upper side of shelf 12 is placed the reels 22 and 24 and respective spindles 34 and 36 therefor, the tape guide studs 38 and 40, and a snap action switch 42 associated with the reel 24 as will later appear. To the underside of shelf 12 there is secured so as to depend therefrom, the amplifier 28 and tape reel motor 26. It is also pointed out that shelf 12 may be provided with the elongated slot 44 to allow projection of tubes 32, if necessary. By the arrangement so far described, it will be appreciated that shelf 12 can be readily moved from housing 10 together with the respective parts mounted thereon.

The novelty in this invention resides in the combination with a sound mechanism as above illustrated of mechanism adapted to utilize a regular table model or French type dial telephone 46. In this respect there is placed in the bottom of housing 10 a vertically disposed channel shaped bracket 48 to which there is mounted a small electric motor 52 that we refer to as the lifting motor and to which is connected the snap action switch 54. An elongated lifting arm 56, preferably made of strap metal, is vertically disposed within housing 10 near one end thereof so as to extend upwardly through a slot 58 in shelf 12 and upwardly through a suitable slot 60 in top 16. The upper portion of arm 56 is bent so as to form a horizontal portion 62 with a depending finger 64 on the free end thereof as shown in Fig. 2. One or more rigid bar links 66 are pivotally connected at one end to one side of bracket 48 and similarly connected at the other end to the lower portion of arm 56 and preferably we have placed two such links at each side of bracket 48 for more dependable operation of arm 56 as will later appear.

A rotatable shaft 68 connected to lifting motor 52 extends therefrom to a point under the lower edge of arm 56 and a cam member 70 is secured to the free end of shaft 68 so as to be engageable with the bottom of arm 56 as shown in Fig. 4. Thus as cam 70 rotates, arm 56 will move upwardly as indicated by the dotted lines in

Fig. 2 and will move downwardly by gravity as the rotation of shaft 68 makes cam 70 ineffective as a lifting means.

To facilitate following the description of the wiring diagram, it is believed a brief outline of the general operation of this alarm will be helpful. With this alarm assembled as shown in Fig. 1 it will be observed top 16 is in place and grill 18 will be disposed directly over the amplifier 28. A regular commercially used dial telephone 10 is then placed on top 16 and the combination ear and mouthpiece 72 is placed on cradle 74 so that the position of the mouthpiece portion is just above the amplifier. Arm 56 is normally in its lowered position and horizontal portion 62 thereof is laid across cradle 74 so as to depress telephone switch 76 (Fig. 2) and the telephone handpiece 72 is then cradled in its normal manner. The zero dial hole 78 is then dialed to the stop 80 as if the call operator, which is standard on dial telephones, and finger 64 is inserted into the dial hole 82 which will be at the top of the dial and which will be the normal dial opening for the numeral one. In this position, finger 64 will hold the dial against rotation, the same as if a person kept his finger on the dial and did not release it after dialing a number. Thus arranged, the telephone circuit is open and does not interfere with the central switchboard and in fact an incoming call can even be received. However, upon actuation of this device, and shall be presently described, arm 56 moves upwardly to raise telephone piece 72 and hold it off of switch 76 at the same time finger 64 releases the dial so that the call to the operator is completed. Thereupon the sound track begins to operate and produces a recorded message into the mouthpiece of the telephone. After a predetermined interval, arm 56 is returned to its lower position to reset telephone piece 72 and open the telephone circuit.

Referring now more particularly to Fig. 6, our alarm circuit may be operated off of any 110 volt line 84. A line connection to circuit 84 shown generally at 86 in Fig. 1 in which may be imposed a manually operable switch 88 provides the leads 90 and 92 from which our alarm circuit is formed as follows. Lead 90 connects to tape motor 26 and to transformer 30 by lead 93. Lead 92 connects to transformer 30 and also to pole 96a of the normally open double pole relay 96 by lead 94. An impulse switch 98 which may be several in number connected in parallel for actuating this alarm, is connected by leads 100 and 102 to pole 96b of relay 96 and it will be understood that poles 96a and 96b are connected and simultaneously operated by latch 104 and grounded as at 105. Lead 106 connects lead 100 to transformer 30, grounded as at 107, and lead 108 connects the tubes 32 to a resistor 110 extending between pole 96b and lead 102. Thus, upon closing of any one of switches 98, relay 96 will be closed so that the circuit to the tubes and amplifier will be closed whereby the tubes will immediately begin to warm up.

Pole 96a is connected in series by lead 112 to the lifting motor switch 54 in which contact 54a is normally closed and contact 54a is in turn connected by lead 114 to contact 42a of switch 42. Switch 42 is normally closed with contact 42a and is connected by lead 116 to lifting motor 52, whose circuit is completed by lead 118 connecting the same to lead 99. The tape motor 26 is connected in series to contact 54b of motor switch 54 by lead 120 and contact 42b of switch 42 is connected in series to lead 120 by lead 121.

Thus, arranged, the operation of our alarm circuit is as follows. Impulse switches 98 may be of any suitable type calculated to operate in a given emergency and with one alarm unit as shown in Fig. 1, any number of these switches 98, connected in parallel, can be dispersed about a building or area for adequate coverage. Upon the closing of switch 98, relay 96 is energized so that current flows from pole 96a to motor switch 54 and from pole 96b to the amplifier and tubes. At this point motor 52

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begins to operate with cam 70 normally in the solid line position of Fig. 4 so that arm 56 is down. Thus as cam 70 turns, arm 56 raises as described and during this raising interval, the tubes are warming up with the circuit to tape motor still open. The closed circuit for the lifting motor in this initial operation can be traced from lead 92 to pole 96a to lead 112 to contact 54a, to lead 114 to contact 42a through switch 42 to lead 116 to motor 52 and lead 118 from motor 52 to lead 90.

Motor 52 is wired to cut off when cam 70 reaches its dotted line position (Fig. 4) so as to hold arm 56 and receiver 72 up during the operation of the sound means and this is accomplished by a second cam 122 (Figs. 2 and 6) or other suitable well known means that acts on switch 54 when cam 70 reaches its highest point, so that contact 54a opens and contact 54b closes. When this occurs, motor 52 stops and the tape motor begins operation on the close circuit which can be traced as follows. Lead 92 through pole 96a to lead 112 to contact 54b to lead 120 to tape motor 26 and lead 90 from the tape motor 26. The duration of operation by tape motor 26 can be selectively determined by switch 42 which is of a well known type and which has the wire arm 124 (Figs. 5 and 6) arranged to ride on the tape on the feed reel 22. Thus as tape 20 is removed from reel 22, the arm 124 will move (Fig. 6) so that switch 42 opens the connection with contact 42a and closes with contact 42b to restart the lifting motor 52 on a circuit than can be traced as follows. Lead 92 to pole 96a to lead 112 to contact 54b to lead 120 to lead 121 to contact 42b of switch 42. Switch 42 is connected to motor 52 by lead 116 and the circuit is completed by lead 118 connecting motor 52 to lead 90. The operation of motor 52 at this point continues until cam 70 reaches its down or solid line position (Fig. 4) at which point cam 122 or other mechanism employed here stops motor 52 by acting on switch 54 to open the connection between lead 112 and contact 54b and close said lead with contact 54a whereby said alarm is in its original position.

It will, of course, be understood that the magnetic pickup 25, tubes 32, amplifier 28, sound track 20 and other related parts in the sound mechanism are electrically connected for proper operation but such connections are not shown in detail since they are well known and no invention is claimed therefor.

It is pointed out that once this alarm has operated, the tape 20 is rewound manually onto reel 22 in order to deliver the same message on a future actuation. However, an automatic rewinding can be provided without departing from the principle of our invention. It will further be appreciated from the above description, that this alarm mechanism is easily portable and can be utilized almost anywhere. It can be conveniently located to any telephone and wires 100 and 102 to the impulse switches 98 can be laid to any and several points.

It is submitted that the invention shown and described is aptly suited to achieve the purposes intended and is characterized by a combination of highly useful and mutually cooperating elements that combine their respective and proportionate functions in accomplishing the objects sought to be obtained.

Some changes may be made in the construction and arrangement of our alarm system without departing from the real spirit and purpose of our invention, and it is our invention to cover by claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

We claim:

1. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a speaker assembly means for producing a recorded message disposed adjacent the mouthpiece of the telephone, a support, an arm movably connected to said support, a finger on said arm, said arm positioned

under the receiver of said telephone in its inoperable position, said dial operable for establishing communication with a telephone operator and said finger engageable with said dial to hold it against release and establishing that communication, means for raising said arm, means for actuating said last mentioned means whereby the raising of said arm moves said receiver to place the telephone in operation and at the same time releases said dial to complete communication with a telephone operator, and said means for raising said arm operatively connected to said speaker assembly for actuating the same.

2. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a speaker assembly means for producing a recorded message disposed adjacent the mouthpiece of the telephone, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the receiver of said telephone in its inoperable position, said dial operable for establishing communication with a telephone operator and said finger engageable with said dial to hold it against release and establishing that communication, means for raising said arm, means for actuating said last mentioned means whereby the raising of said arm moves said receiver to place the telephone in operation and at the same time releases said dial to complete communication with a telephone operator, said means for raising said arm operatively connected to said speaker assembly for actuating the same, control means for limiting the operation of said speaker assembly to a predetermined time interval, and said control means operatively connected to said means for raising said arm whereby when said speaker means has ceased to operate, said arm is returned to its original position so as to place said telephone in an inoperable position.

3. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a source of electric power, an electric circuit connected thereto, a speaker assembly means for producing a recorded message imposed in said electric circuit, said speaker assembly disposed adjacent the mouthpiece of said telephone, a relay in said electric circuit normally in open position, a switch in said electric circuit for closing said relay so as to actuate said speaker assembly, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the telephone receiver when in its inoperable position, said dial operable for establishing communication with a telephone operator and said finger engageable with said dial to hold it against release and establishing that communication, an electric motor electrically connected in series to said relay, means connecting said electric motor to said arm for moving the same whereby when said relay is closed said electric motor operates to move said arm which moves the telephone receiver to operable position and releases said dial to complete communication with a telephone operator.

4. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a source of electric power, an electric circuit connected thereto, a speaker assembly means for producing a recorded message imposed in said electric circuit, said speaker assembly disposed adjacent the mouthpiece of said telephone, a relay in said electric circuit normally in open position, a switch in said electric circuit for dosing said relay so as to actuate said speaker assembly, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the telephone receiver when in its inoperable position, said dial operable for establishing communication with a telephone operator and said finger engageable with said dial to hold it against

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release and establishing that communication, an electric motor electrically connected in series to said relay, a rotatable shaft extending from said electric motor, a cam on the free end of said shaft, said cam engageable with said arm for moving the same whereby when said relay is closed said electric motor operates to move said arm which moves the telephone receiver to operable position and releases said dial to complete communication with a telephone operator.

5. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a housing, a speaker assembly means for producing a recorded message disposed within said housing, a bracket in said housing, an arm movably connected to said bracket, a finger on said arm, a top for said housing provided with a grill portion over the speaker unit of said speaker assembly, said telephone placed on said top so the receiver portion is disposed near said grill portion, said arm positioned under the receiver of said telephone in its inoperable position, said dial operable for establishing communication with a telephone operator and said finger engageable with said dial to hold it against release and establishing that communication, means for raising said arm, means for actuating said last mentioned means whereby the raising of said arm moves said receiver to place the telephone in operation and at the same time releases said dial to complete communication with a telephone operator, and said means for raising said arm operatively connected to said speaker assembly for actuating the same.

6. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a source of electric power, an electric circuit connected thereto, a speaker assembly means for producing a recorded message imposed in said electric circuit, said speaker assembly disposed adjacent the mouthpiece of said telephone, a relay in said electric circuit normally in open position, a switch in said electric circuit for closing said relay, a double switch on said motor normally closing the electrical connection between said electric motor and said relay by one contact, the other contact of said double switch electrically connected to said speaker assembly so that when closed said speaker assembly is actuated, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the telephone receiver when in its inoperable position, said dial manipulated for communicating with a telephone operator and said finger engaging said dial to hold it against release and establishing that communication, an electric motor electrically connected in series to said relay, means connecting said electric motor to said arm for moving the same whereby when said relay is closed said electric motor operates to move said arm which moves the telephone receiver to operable position and releases said dial to complete communication with a telephone operator, and means on said electric motor for moving said double switch into contact with said speaker assembly when said arm has been moved whereby the circuit to said electric motor is opened and said receiver will remain in operable position while said speaker assembly is operating.

7. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a source of electric power, an electric circuit connected thereto, a speaker assembly means for producing a recorded message imposed in said electric circuit, said speaker assembly disposed adjacent the mouthpiece of said telephone, a relay in said electric circuit normally in open position, a switch in said electric circuit for closing said relay, a double switch on said motor normally closing the electrical connection between said electric motor and said relay by one contact, the other contact of said double

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switch electrically connected to said speaker assembly so that when closed said speaker assembly is actuated, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the telephone receiver when in its inoperable position, said dial manipulated for communicating with a telephone operator and said finger engaging said dial to hold it against release and establishing that communication, an electric motor electrically connected in series to said relay, means connecting said electric motor to said arm for moving the same whereby when said relay is closed said electric motor operates to move said arm which moves the telephone receiver to operable position and releases said dial to complete communication with a telephone operator, means on said electric motor for moving said double switch into contact with said speaker assembly when said arm has been moved whereby the circuit to said electric motor is opened and said receiver will remain in operable position while said speaker assembly is operating, a second double switch in said electric circuit connectible by one normally closed contact to said speaker assembly and connectible by the other contact to said electric motor, said second double switch adapted to limit the operation of said speaker assembly to a predetermined interval after which the circuit to said speaker assembly is open and the circuit to said electric motor is closed for moving said arm to its original position to place the telephone receiver in an inoperable position.

8. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a source of electric power, an electric circuit connected thereto, a speaker assembly means for producing a recorded message imposed in said electric circuit, said speaker assembly having an amplifier section and a sound producing section, said speaker assembly disposed adjacent the mouthpiece of said telephone, a double pole normally open relay in said circuit connected at one side to said amplifier section, a switch in said electric circuit for closing said relay so as to actuate said amplifier section whereby it begins to warm up, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the telephone receiver when in its inoperable position, said dial manipulated for communicating with a telephone operator and said finger engaging said dial to hold it against release and establishing that communication, an electric motor electrically connected in series to the other side of said relay, a double switch on said motor normally closing the electrical connection between said electric motor and said relay by one contact, the other contact of said double switch electrically connected to said sound producing section so that when closed said sound producing section is actuated, means connecting said electric motor to said arm for moving the same whereby when said relay is closed said electric motor operates to move said arm which moves the telephone receiver to operable position and releases said dial to complete communication with a telephone operator, and means on said electric motor for moving said double switch into contact with said sound producing section when said arm has been moved whereby said receiver will remain in operable position while said speaker assembly is operating.

9. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a source of electric power, an electric circuit connected thereto, a speaker assembly means for producing a recorded message imposed in said electric circuit, said speaker assembly having an amplifier section and a sound producing section, said speaker assembly disposed adjacent the mouthpiece of said telephone, a double pole normally open relay in said circuit connected at one side to said amplifier section, a switch in

said electric circuit for closing said relay so as to actuate said amplifier section whereby it begins to warm up, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the telephone receiver when in its inoperable position, said dial manipulated for communicating with a telephone operator and said finger engaging said dial to hold it against release and establishing that communication, an electric motor electrically connected in series to the other side of said relay, a double switch on said motor normally closing the electrical connection between said electric motor and said relay by one contact, the other contact of said double switch electrically connected to said sound producing section so that when closed said sound producing section is actuated, means connecting said electric motor to said arm for moving the same whereby when said relay is closed said electric motor operates to move said arm which moves the telephone receiver to operable position and releases said dial to complete communication with a telephone operator, and means on said electric motor for moving said double switch into contact with said sound producing section when said arm has been moved whereby said receiver will remain in operable position while said speaker assembly is operating, a second double switch in said electric circuit connectible by one normally closed contact to said sound producing section and connectible by the other contact to said electric motor, said second double switch adapted to limit the operation of said sound producing section to a predetermined interval after which the circuit to said sound producing section is open and the circuit to said electric motor is closed for moving said arm to its original position to place the telephone receiver in an inoperable position.

10. In combination with a dial telephone wherein the dialing of one number will establish communication with a telephone operator at a switchboard, an alarm system, comprising, a speaker assembly means for producing a recorded message disposed adjacent the mouthpiece of the telephone, a support, an arm movably connected to said support, a finger on said arm, said arm positioned under the receiver of said telephone in its inoperable position, said dial manually operable whereby a single number can be moved to a position for release to establish communication with a telephone operator, said finger engageable with said dial to hold it against release and establishing that communication, means for raising said arm whereby said arm moves said receiver to place the telephone in operation and at the same time said finger is moved out of engagement with said dial to release the same and complete communication with a telephone operator, and said means for raising said arm operatively connected to said speaker assembly for actuating the same.

11. In a signalling apparatus, a telephone having a rotatable dial on which the dialing of one number will establish communication with a switchboard operator, an arm engageable with the receiver on said telephone for moving it from its inoperable position, a finger on said arm, said dial manually operable whereby a single number can be moved to a position for release to establish communication with said switchboard operator, said finger engageable with said dial to hold it against release, means for moving said arm to disengage said finger from said dial, and at the same time moving said receiver to its operable position, and sound producing means connected to and actuated by said arm moving means.

12. In a signalling apparatus, a telephone having a rotatable dial on which the dialing of one number will establish communication with a switchboard operator, an arm engageable with the receiver on said telephone for moving it to and from its inoperable position, a finger on said arm, said dial manually operable whereby a single number can be moved to a position for release to establish communication with said switchboard operator, said finger engageable with said dial to hold it against release, means for moving said arm to disengage said finger from said dial, and at the same time moving said receiver first to its operable position for a predetermined interval and then to its inoperable position, and sound producing means connected to and actuated by said arm moving means.

13. In a signalling apparatus, a telephone having a rotatable dial on which the dialing of one number will establish communication with a switchboard operator, an arm engageable with the receiver on said telephone for moving it to and from its inoperable position, a finger on said arm, said dial manually operable whereby a single number can be moved to a position for release to establish communication with said switchboard operator, said finger engageable with said dial to hold it against release, means for moving said arm to disengage said finger from said dial and at the same time moving said receiver first to its operable position for a predetermined interval and then to its inoperable position, and sound producing means connected to and actuated by said arm moving means during the time said receiver is in operable position.

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