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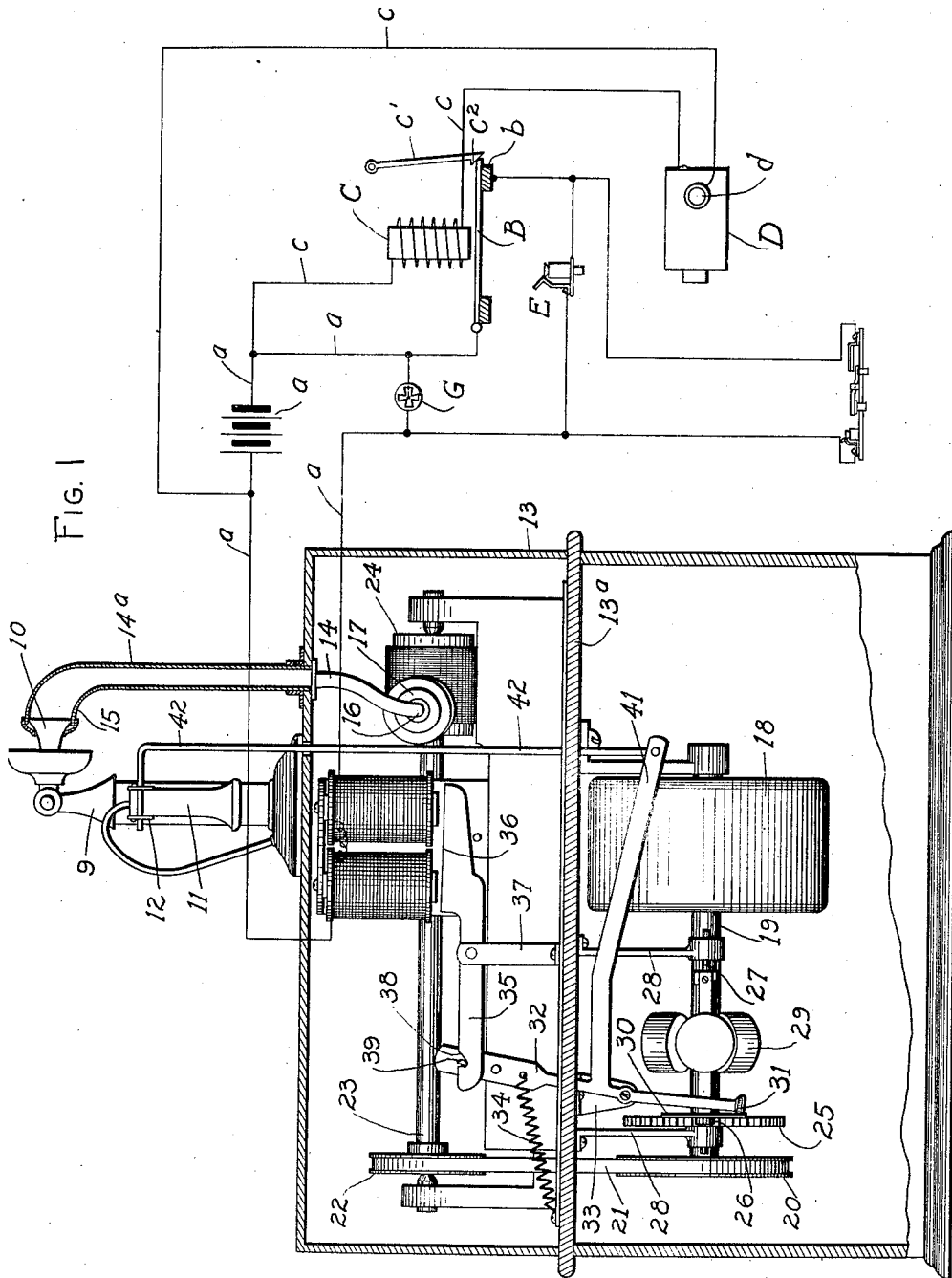
M. FIELD

1,505,326

PHONETIC BURGLAR AND OTHER ALARM

Filed Oct. 29, 1919

2 Sheets-Sheet 1



INVENTOR
MARTIN FIELD

By *Benjamin, Rodhouse & Lundy*
ATTYS.

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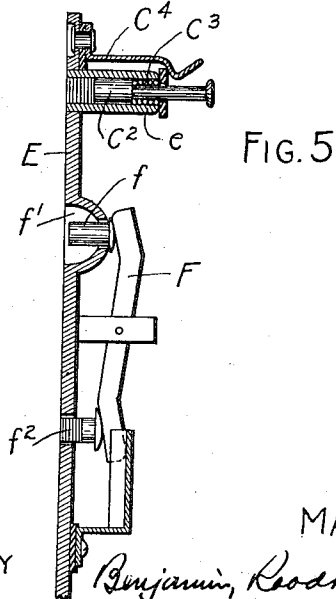
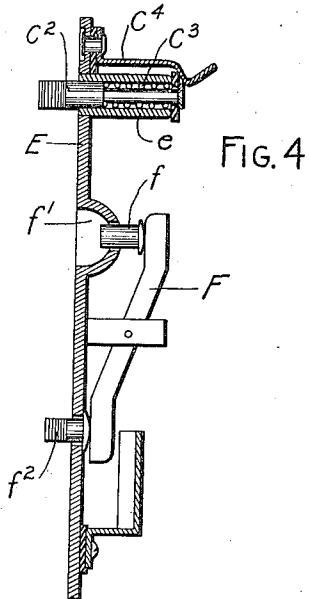
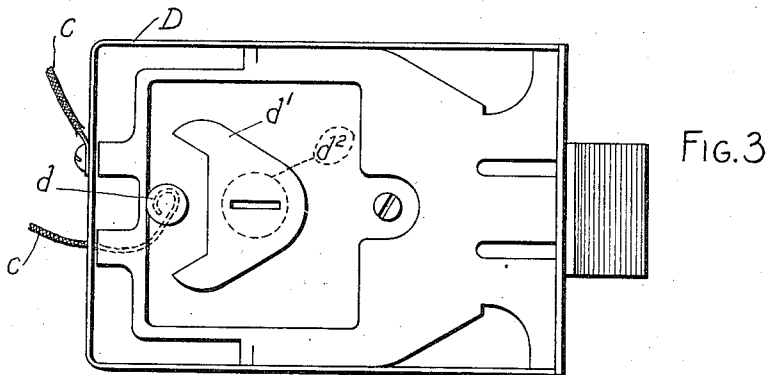
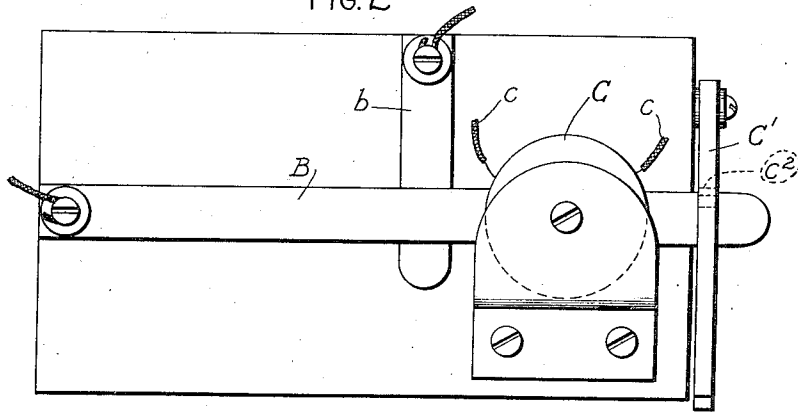
M. FIELD

PHONETIC BURGLAR AND OTHER ALARM

Filed Oct. 29, 1919

2 Sheets-Sheet 2

FIG. 2



INVENTOR
MARTIN FIELD
By *Benjamin, Rodhouse & Kennedy.*
ATTYS.

UNITED STATES PATENT OFFICE.

MARTIN FIELD, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO BEN GOLDSHER, OF CHICAGO, ILLINOIS.

PHONETIC BURGLAR AND OTHER ALARM.

Application filed October 29, 1919. Serial No. 334,137.

To all whom it may concern:

Be it known that I, MARTIN FIELD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Phonetic Burglar and Other Alarms, of which the following is a specification.

My invention relates to devices for automatically sounding an alarm in case of fire or when unauthorized persons attempt to enter an apartment or building by opening a window or door.

One of the objects of my invention is the provision of an alarm system which will be set in motion by an electric switch operated in case of fire or by the opening of a window or door and, through the instrumentality of a sound reproducing record and instrument and the ordinary service telephone, notify the operator at the telephone switch board that the apartment is on fire or is being entered by a burglar. Numerous burglar alarms have been devised, but to my knowledge the majority of these have been for the purpose of frightening the intruder in an attempt to scare him away, or for causing a "flash" at the central switch board, and both types of these alarm devices have involved the employment of extensive and complicated systems of wiring and require more or less extensive additions to and alterations of the service telephone instrument. But with my device, the alarm is sounded at a central switch board through the medium of the ordinary telephone instrument installed in the apartment of the subscriber, so that little or no sound is made in the invaded apartment and the police authorities will be notified of the entry without this knowledge being conveyed to the intruder, and no modification of the telephone instrument is required. Most burglar alarms which notify a central station are devised along the lines of an annunciator system, whereas in my device I propose to record upon a sound reproducing record such information as the name of the subscriber, the telephone number and the street address which is reproduced so that the central switch board operator receiving the information, which is repeated on the record and amplified in the telephone transmitter, may immediately notify the police of the exact location of the

burglary, thereby saving valuable time and rendering a capture of the intruder much more likely. I prefer to accomplish the diverse objects of my invention by the means and in the manner substantially as herein-after fully described, and as more particularly pointed out in the claim. Reference will now be had to the accompanying drawings that form a part of this specification, in which—

Figure 1 is a front elevation of my burglar alarm apparatus attached to a service telephone instrument, the front wall of the cabinet being removed, and a schematic layout of the circuits being shown in conjunction therewith.

Figure 2 is a top plan of one of the relays employed in connection with my alarm system.

Figure 3 is a view of the rear of a door lock or latch that is utilized as the master or control switch.

Figure 4 is a detail, partly in section, of the alarm circuit closing element operable by the door or window.

Figure 5 is a similar view of the device in a set position.

Referring to the drawings, 9 represents a telephone instrument of the usual and well known type having, among its accessories, a mouth piece or transmitter 10 and a receiver 11 that is supported upon the switch actuating or circuit making or breaking hook 12, and which, as is well known, upon the raising of the receiver, establishes communication with the switch board at the central station, and by means of a "flash" signals the switch board operator.

My improved burglar alarm, preferably, consists of a cabinet or box-like structure 13, upon which the telephone instrument is adapted to be placed, and through which a sound transmitting conduit passes. The outer portion 14^a of this conduit consists of a metal tube having a flared upper end of a diameter approximately the same as the bell-shaped end of the transmitter 10, and said cup may be provided with a flexible (rubber) fitting or lip that is adapted to be placed over and surround the usually flared portion of the transmitter. The lower portion of the conduit consists of a rubber tube 14 connecting with the metal tube 14^a, while its lower end is fitted upon a hollow stub 16

projecting from the upper face of a sound-reproducing box 17 of any well-known type and having the usual stylus or needle.

Mounted within cabinet 13 is a suitable motor 18, preferably of the coiled spring type which through the instrumentality of suitable train-gear (not shown) is adapted to actuate the main drive-shaft 19 provided upon its end with a pulley 20, which, through a belt 21 drives a smaller pulley 22. This latter pulley (22) is mounted upon the spindle 23 which carries the usual record drum 24 of a phonograph or sound-reproducing instrument. However, this drum is slightly shorter in length than is employed upon the ordinary commercial forms of instruments, and contains a repeated record, which, when reproduced, delivers to the conduit or tube 14, and through it to the telephone transmitter 10, such information as the address of the apartment and the telephone number of the subscriber, or either, and the further information that the apartment is being entered by unauthorized persons with the request that the central operator at once notify the police authorities. The purpose of repeating this information is because the instrument starts its operation as soon as the receiver is raised, and it frequently occurs that the operator at the central switch board does not respond immediately the "flash" is observed on her switch board, and if only one reproduction of the information were given the switch board operator might fail to plug in until after the giving of the information had ceased. Also by repeating the message on the sound reproducing cylinder the central switch board operator can readily check the information as it is repeated.

When the apparatus is "set", motor 18 is retraded or arrested by means of a brake mechanism which will now be described. Mounted upon shaft 19 adjacent pulley 20 is a large gear 25 that meshes with and actuates a pinion 26 carried by a governor shaft 27, the latter being journaled in hanging bearings 28 depending from an adjacent portion of cabinet 13. A centrifugal governor 29 is mounted on this shaft 27 as is a brake disk 30, the latter being in position to be engaged by the brake shoe or pad 31 carried upon the lower end of brake lever 32. This lever 32 is pivoted intermediate its ends upon a bracket 33 on cabinet 13, and its upper end passes upwardly through the intermediate floor 13^a of the cabinet where one end of a contraction spring 34 is secured to it, and the opposite end of said spring is secured to floor 13^a so that when the brake-lever 32 is released by the actuating of the alarm system this spring will move the lever and shoe away from disk 30 and permit the motor to drive the phonograph drum and sound record or cylinder.

In order to retain the brake-lever in position to hold or arrest the operation of the motor under normal conditions, I have provided a trigger or latch mechanism which consists of a rocking lever 35, one end 36 whereof is flattened and which is pivoted intermediate its ends upon a bracket or post 37. Opposite the flattened end lever 35 is provided with a notch 38 adapted to receive a latch pin or stud 39 on the adjacent portion of brake-lever 32. Suitable magnets 40 are provided, the cores whereof are adapted to attract the flattened end 36 of the rock-lever to release latch pin 39 from the notch 38 by depressing or lowering the adjacent portion or end of lever 35. Connected to brake-lever 32 is an arm 41 that extends substantially horizontally therefrom towards and past motor 18, and a rod 42 is pivotally connected to the outer end of this arm and extends vertically up through the cabinet to a point adjacent the telephone switch hook 12 where it is bent laterally to engage said hook. This permits hook 12 to be lifted upon the actuation of the system, thus making connection from the telephone instrument to the switch-board at the "central" station, and at the same time the motor will be released and the phonograph will begin to reproduce the record into the transmitter 10 through the conduit or tube 14. Suitable means may be provided at the end of the record for stopping the motor, if desired.

The electrical instrumentalities consist of a battery A or any other suitable source of electrical current in the circuit *a* in which is interposed the closed relay, shown in detail in Figure 2, consisting of the arms B and *b*, normally in contact. Above the longer arm B is the magnet C for drawing arm B away from small arm *b* and breaking the circuit *a*. The circuit *c* of the magnet C, which may also originate in battery A, is carried to a spring latch, shown in Figure 3, where one end thereof is secured to the latch casing D, and the other end thereof extends between an insulated contact post *d* and the opposite pole of battery A. The post *d* is engaged by a bifurcated plate *d'* mounted upon the key-barrel *d*² of the lock which is adapted to be rotated by the key so that when the owner desires to enter the house the operation of the key will close circuit *c* of magnet C and break the circuit *a* which runs through magnet 40.

In order to keep the circuit open, I have provided a latch bar *c'* which has a notch *c*² adapted to engage the end of arm B when it is attracted by magnet C and the contact between it and arm *b* is broken. Interposed in the circuit of magnets 40 are a suitable number of spring operated switches E to guard the windows and doors. These switches, as clearly shown in Figures 4 and

5, comprise barrel e in which is mounted a plunger e^2 normally kept in a projected position by a coil spring e^3 mounted within barrel e and around the reduced shank of plunger e^2 . A spring contact piece e^4 extends adjacent the barrel e and is bent so that the inner headed end of plunger e^2 will contact therewith and close the circuit when the plunger is in projected position, as shown in Figure 4.

With the arrangement so far described, after latch c' has been released to close the circuit between arms B and b any opening of a door or window will serve to close the circuit through one of the spring switches E, but in order to permit the occupant to leave the room after setting the device by releasing latch c' , a knife switch F is, preferably, mounted upon the same plate upon which switch E is mounted, which is to be employed in connection with the door. This knife switch F is opened to disconnect or break the circuit by means of a manually operated push button f extending into a depression or concaved recess f' and is closed by a plunger f^2 extending into the same plane as plunger e^2 and operated in the same manner as plunger e^2 by the closing of the door.

It will now be seen that the occupant of the room will be permitted to set the device by leaving the exit door open and operating the manual push button f before he releases latch c' from arm B, but that upon the closing of the door spring switch e will be pushed back thereby breaking the circuit and knife switch F will be pushed back by plunger f^2 , thereby closing the knife switch, but that upon opening the door, except after first having operated the lock with the key, the knife switch will not operate except manually and plunger e^2 will be projected by spring e^3 and the circuit to magnets 40 will be closed.

For the purpose of providing instrumentalities for individuals to give an alarm, I have provided a switch G of a, preferably, portable type, as shown diagrammatically in Figure 1, which is interposed in circuit a . This may be in the form of a push button or a contact plate, such as is employed in households for signaling from the dining room to the kitchen, and is well adapted for use in banks and mercantile establishments where protection is desired against holdups.

It will now be seen from the foregoing description, taken in connection with the drawings, that I have provided very simple instrumentalities for automatically operating the ordinary telephone instrument to send in a phonetic alarm message to the central telephone operator, and that these instrumentalities will be set in motion either automatically by the unauthorized opening of either the doors or windows of the protected premises or voluntarily through extremely simple electrical instrumentalities.

It will of course be understood that when the present invention is employed specifically as a fire alarm the spring-switch E may be held in open position by a fusible link the fusing of which releases the switch. It will be appreciated that such instrumentalities may be provided upon flexible cords and distributed about the premises so as to protect the same much more thoroughly than such systems are ordinarily designed to do and at much less expense and trouble.

What I claim as new is:—

A phonetic alarm comprising a telephone service instrument including a transmitter and a receiver hook controlling the talking circuit of said instrument, in combination with a sound record and reproducer therefor, a sound tube connecting said reproducer and transmitter, mechanism for operating said record, a brake device consisting of a rotatable element on said operating mechanism, a three-arm lever pivoted adjacent the intersection of its arms, a brake-shoe on one of said arms engageable with said rotatable element to release and stop the operating mechanism, a link operatively connecting a lateral arm of said lever to the receiver hook to raise and lower the latter, a rock-lever having latching engagement with the third arm of said lever, electro-magnetic means for oscillating said rock-lever, and current conductors connected to said electro-magnetic means and having a switch interposed therein whereby the circuit in said conductors is opened and closed and thereby actuates said rock-lever through said magnets to move said three-arm lever.

Signed at Chicago, county of Cook, and State of Illinois, this 21st day of October, 1919.

MARTIN FIELD.

Witnesses:

BEN GOLDSHER,
FLORENCE MITCHELL.