

April 29, 1924.

1,492,345

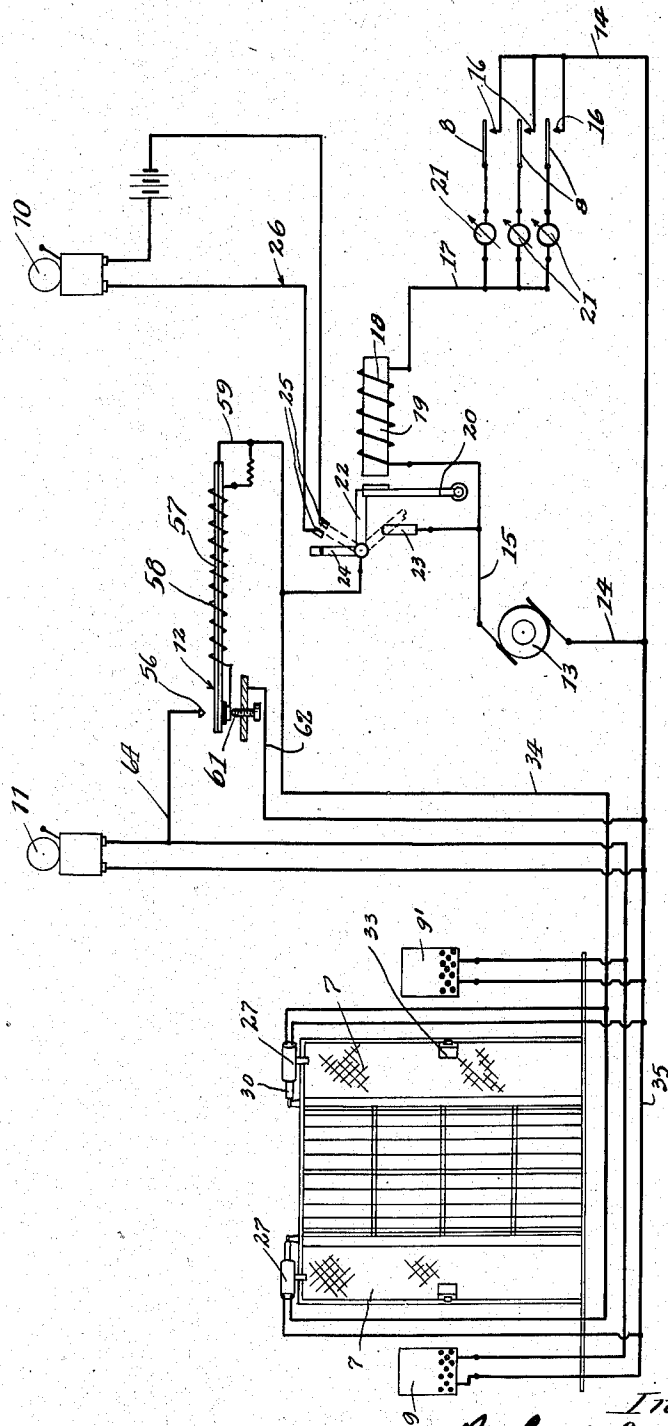
R. E. BARTON

BURGLAR SYSTEM

Filed June 29, 1921

2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

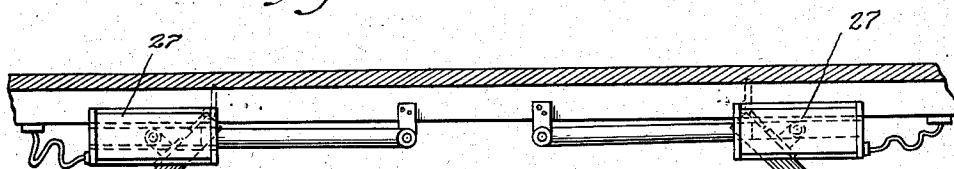


Fig. 3.

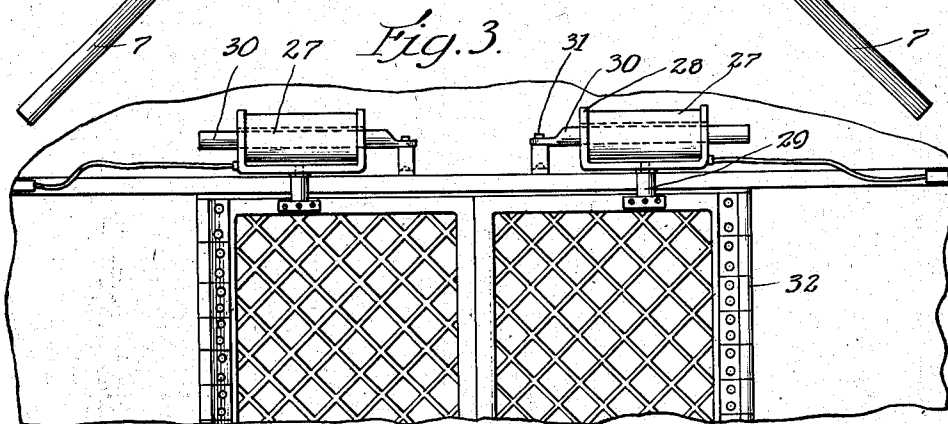


Fig. 4.

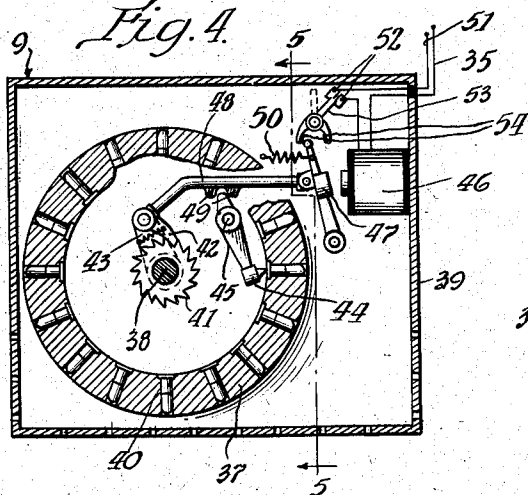
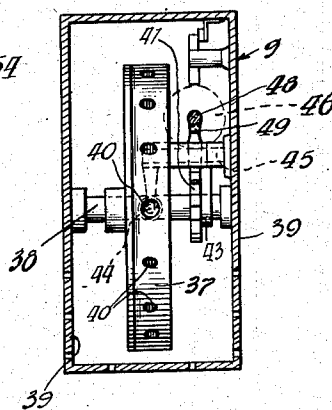


Fig. 5.



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UNITED STATES PATENT OFFICE.

ROBERT E. BARTON, OF CHICAGO, ILLINOIS.

BURGLAR SYSTEM.

Application filed June 29, 1921. Serial No. 481,207.

To all whom it may concern:

Be it known that I, ROBERT E. BARTON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Burglar Systems, of which the following is a full, clear, and exact description.

The invention relates to burglar traps.

The object of the invention is to provide an improved burglar system and trap which is more particularly adapted for banks and whereby the robber will be prevented from escaping. Another object is to provide an improved system for this purpose in which there will be a device, the operation of which will be delayed and which will distract a robber from his purpose, so that the employes of the bank will have an opportunity to seek protection or assail the robber while he is distracted. Other objects of the invention will appear from the specification.

In the drawings: Fig. 1 is a diagram of a system embodying the invention. Fig. 2 is a plan of the mechanism for closing the doors at the entrance to the bank. Fig. 3 is an inside elevation thereof. Fig. 4 is a detail of the distracting device, parts being shown in section. Fig. 5 is a section taken on line 5-5 of Fig. 4.

The improved system comprises a pair of hinged doors 7 disposed inwardly of the entrance to the bank; a series of switches 8 disposed in different portions of the bank and usually distributed so that one will be available to each employe or group of them; a device 9 for distracting the robber; a signalling device 10 located at the station where an officer is located or at the police station, and a local signalling device 11 which is operated after the robber has been trapped in the building.

The invention contemplates the closing of the doors 7 responsive to any of the switches located throughout the bank office or building in advance of the operation of the alarm 11 given to the bank generally and in advance of a signal so as to make it necessary for him to look around to ascertain the source of the distracting signal. The latter is produced by a fire arm which will lead the robber to believe that he is attacked from the rear and make it necessary for him to turn from the attacked employe in self-defense. To control the general alarm

and the distracting signal, a thermostat 12 is utilized to control the electrical circuits for actuating said alarm and distracting device.

The system comprises an electric current generator 13 to which is connected conductors 14 and 15. Each switch 8 comprises a normally open contact 16, all of which are connected to the conductor 14. Each switch 8 is connected to a conductor 17 in which is included a helix 18 of a magnet 19 for operating an armature 20 to control the several circuits for the alarms for closing the doors and for operating the distracting device. An indicator 21 of any suitable type may be included in the conductors which are connected to the switches 8, so that it may be ascertained, if desired, which of the switches 8 was closed to render the system operative in any investigation following a robbery.

The armature 20 is adapted to hold a switch-member 22 which is adapted to engage, when released, a contact 23, so that when the helix 18 is energized, the switch member 22 will be released and engage the contact 23. Member 22 is provided with an arm 24 which is adapted to bridge cross-contacts 25 in an electric circuit 26, in which the signal 10 is included, and which may be located at any point remote from the bank. The purpose of this signal is to notify the police-station immediately of the operation of the system.

The switch-member 22 and contact 23 are adapted to control the mechanism for closing the doors 7 as soon as one of the switches 8 is closed and before the local signals and distracting device in the bank are operated. The mechanism for operating each door comprises a solenoid magnet 27 which is mounted in a frame 28 which is pivoted, as at 29, to the door and is adapted to act upon an armature 30 which is pivoted to the door frame, as at 31. Each door 7 is usually made of lattice-work, so that it may be easily swung and is hinged, as at 32. The doors are provided with a suitable lock 33 which, when the doors are closed by the solenoids 27, is adapted to secure the doors so they cannot be opened, except by a proper key. The helix of each solenoid is connected to a conductor 34 which is connected to the switch-member 22 and to a conductor 35 which is connected to the generator 13. As soon as the switch-member 22 engages contact 23, responsive to the operation of one

of the switches 8, a circuit for the operation of the solenoids 27 to close the doors 7 and prevent the escape of the robber will be established as follows: generator 13, conductor 15, contact 23, switch-member 22, conductor 34, the helices of solenoids 27 and conductor 35. This mechanism exemplifies means for closing the doors to the bank before any local alarm is given, so that the robber will be trapped in the bank. A suitable spring lock is provided on the doors so they cannot be opened after they have been closed by the solenoids except by a key.

After the doors have been closed, the local alarm 11 will be operated to notify all of the occupants of the bank and the device 9 will be operated to distract and confuse the robber. The distracting device is preferably a firearm adapted to explode blank cartridges and located at some point away from tellers or employes, so that, when it is fired, the robber will look around to ascertain the location from which the shot is fired and to defend himself, if necessary.

The device illustrated as an exemplification of the invention comprises a rotatable magazine 37 adapted to hold a series of cartridges 40 and mounted on a shaft 38 in a suitable case 39. A ratchet 41 and a pawl 42 on an arm 43 are adapted to rotate the magazine step by step to successively bring the cartridges into position to be exploded by a hammer 44, which is pivoted in the box, as at 45. A magnet 46 in the case 39 is adapted to operate an armature 47 which is connected to the arm 43 by a link 48 and is provided with abutments 49 for operating the hammer 44. A spring 50 is adapted to retract the armature 47 and the feed mechanism for the magazine. The helix of the magnet 46 is connected to conductor 35. A conductor 51, leading from the helix of the magnet 46, is provided with spaced contacts 52 which are adapted to be normally bridged by a switch-arm 53 which is provided with abutments 54 operable by the armature 47. When the magnet 46 is energized, armature 47 will be shifted to operate link 48, arm 43, pawl 42 and the ratchet 41 to rotate the magazine one step to bring a cartridge into position to be exploded by the hammer 44 and to move the hammer away from the magazine. In this operation, armature 47 will strike one of the abutments 54 on the switch-member 53 to break the circuit for the helix of relay 46 at contacts 52, whereupon the armature 47 will be released and spring 50 will retract the armature and operate link 48 to operate the hammer 44 to explode a cartridge in the magazine. At the end of its retractile stroke, armature 47 will engage the other abutment 54 on the switch-member 53 and restore the switch-member into position to bridge contacts 42 and again close

the circuit for the magnet 46, so that the firing of cartridges will continue as long as the circuit for controlling the magnet 46 remains closed.

Conductor 51 is connected to a contact 56 associated with the thermostat 12. The latter, as well understood in the art, comprises a member 57 formed of metals of different coefficients of expansion and wrapped with a resistance coil 58 which has one of its ends connected to a conductor 59, which is connected to conductor 34, and its other end connected to conductor 62. The member 57 is also connected to conductor 59 and is adapted to normally engage a contact 61 which is connected by the conductor 62 to the conductor 35. When the switch-member 22 is closed, a circuit for the operation of the resistance coil 58 will be established as follows: generator 13, conductor 15, contact 23, switch-member 22, conductors 34, 59, resistance coil 58, contact 61, and conductors 62 and 35. After the doors 7 have been closed and locked, the resistance coil 58 will heat the thermostat member 57 to separate it from the contact 61 and shift it into engagement with contact 56. Whereupon, a circuit for the operation of the distracting device will be established as follows: generator 13, conductor 15, contact 23, switch-member 22, conductors 34, 59, thermostat member 57, contact 56, conductors 51, 52 (Fig. 4), switch-member 53, the helix of magnet 46 and conductor 35.

If desired, one or more additional distracting devices 9', similar in construction to the device 9, may be provided in different portions of the bank, the helix of the magnet 46 for each of said devices being connected to conductors 51 and 35. The alarm or signal device 11 for notifying the local employes is included in a conductor 64 which is connected to conductors 51 and 35, so that whenever the distracting device 9 is operated, this alarm will also be operated.

The invention exemplifies an improved burglar system or trap in which provision is made for deferring the alarm until after the doors have been closed, to prevent the escape of the robber, and also a system in which a deferred distracting device is operated to aid the employes in covering the robber while he is endeavoring to ascertain the source of the shots produced by the distracting device.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. In apparatus of the character described, the combination of mechanism for closing a

door, a switch for controlling said mechanism, an alarm, and means under control of said switch for operating the alarm after a predetermined period has elapsed to close the doors.

2. In apparatus of the character described, the combination of mechanism for closing a door, a switch for controlling said mechanism, an alarm, and means under control of said switch for operating the alarm at a deferred time after the operation of said mechanism.

3. In apparatus of the character described, the combination of an alarm, of a device to distract a burglar from the occupants of the room, and thermostatic means for controlling the operation of said device and alarm.

4. In apparatus of the character described, the combination of an alarm, a fire arm disposed to distract a burglar from the occupants of the room, and thermostatic means for controlling the operation of the alarm and the fire arm.

5. In apparatus of the character described, the combination of mechanism for closing a door, a device to distract a burglar from the occupants of the room, and thermostatic means for controlling the operation of said device.

6. In apparatus of the character described,

the combination of an alarm, a fire-arm disposed to distract a burglar, mechanism for closing a door, means for controlling the operation of said mechanism and means for deferring the operation of the fire-arm until after the door has been closed.

7. In apparatus of the character described, the combination of a firearm, mechanism for closing a door, a switch for controlling the operation of said mechanism and said firearm, and means for deferring the operation of said firearm until after said mechanism has been operated.

8. In apparatus of the character described, the combination of mechanism for closing a door, a switch for controlling the operation of said mechanism, an alarm, a distracting device, and means controlled by the switch for operating the alarm and said device after said mechanism has been operated to close the door.

9. In apparatus of the character described, the combination of mechanism for closing the door, a switch for controlling the operation of said mechanism, an alarm, a distracting firearm, and means controlled by the switch for operating the alarm and said firearm, after said mechanism has been operated to close the door.

ROBERT E. BARTON.