United States Patent [19]

Yarwood

[11] **3,790,944**

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[54] **BURGLAR ALARM SYSTEM**

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[51] **Int. Cl.** **G08b 21/00,** G08b 19/00

[58] **Field of Search** 340/420, 274

[56] **References Cited**

UNITED STATES PATENTS

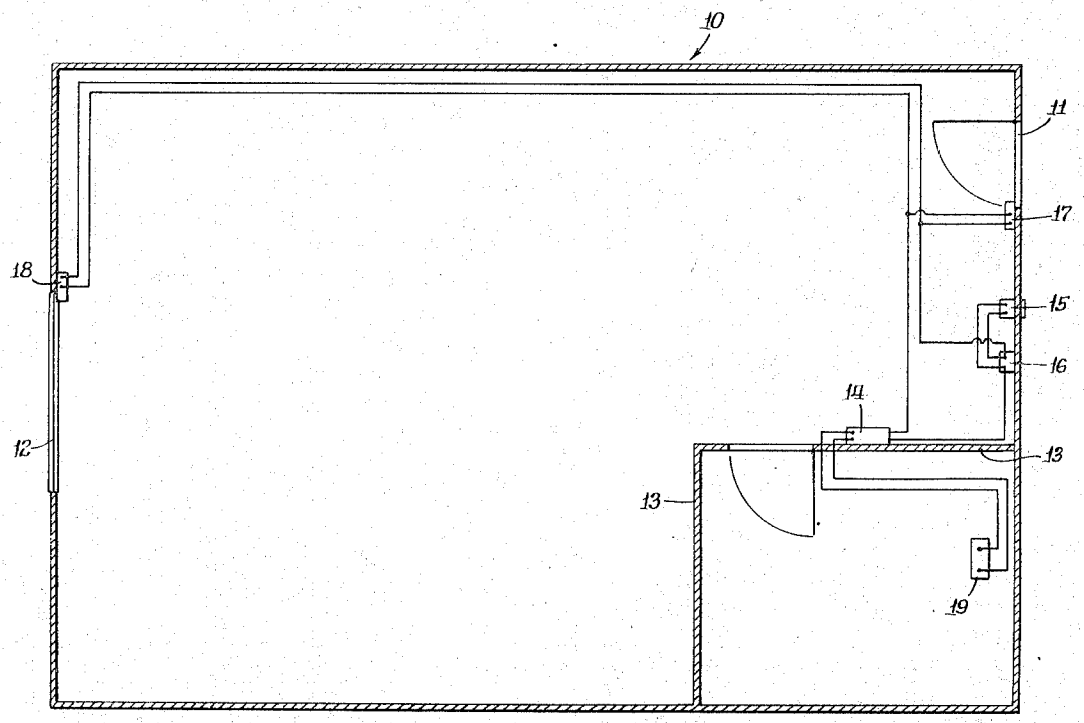
2,916,730	12/1959	Johnson	340/420
3,200,393	8/1965	Worley	340/420
3,623,088	11/1971	Peterson	340/420
3,678,511	7/1972	Benedict	340/420

Primary Examiner—Thomas B. Habecker
Attorney, Agent, or Firm—Kenneth T. Snow

[57] **ABSTRACT**

A single battery powered burglar alarm system for building having an alarm and the battery positioned within a locked box and a plurality of sensor switch elements located externally of the box at strategic locations around the building. The electrical circuit is normally open, but once it is closed for actuation of the alarm by closing of any one of the sensor switch elements the alarm cannot be stopped except by access to the locked box.

4 Claims, 2 Drawing Figures



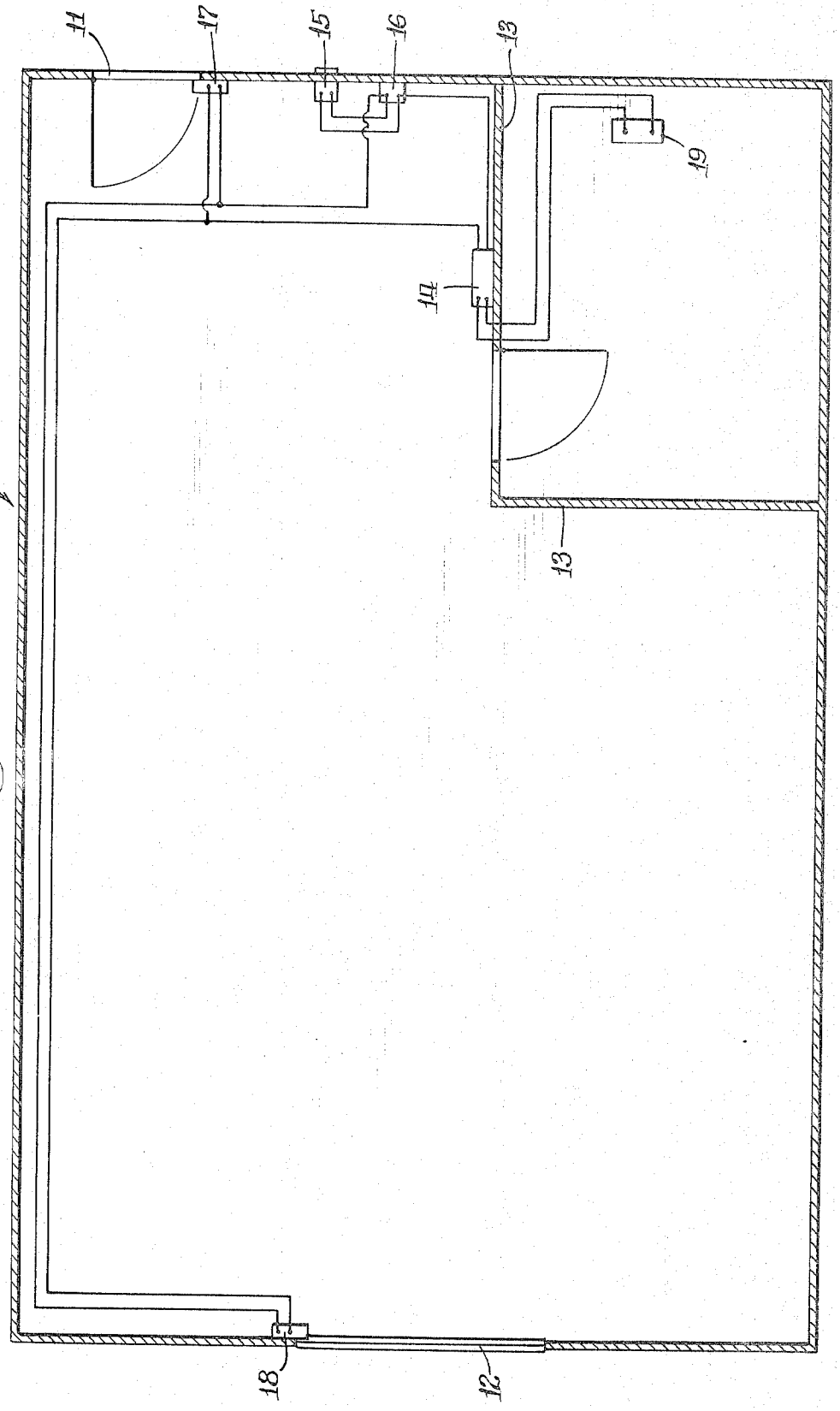


Fig. 1.

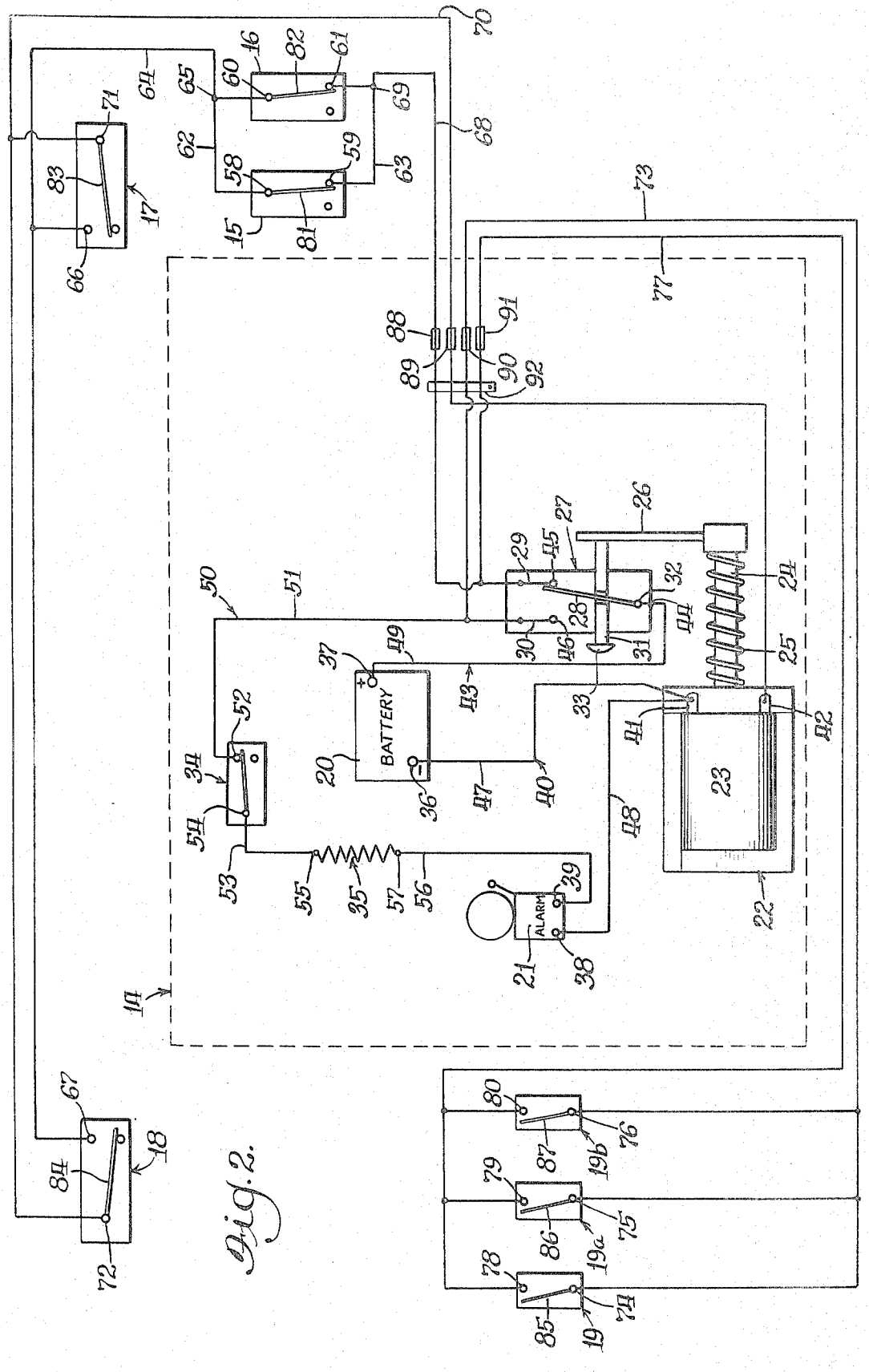


Fig. 2.

BURGLAR ALARM SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

Burglar alarms and systems incorporating alarms have been used almost since the beginning of our civilization. These alarms and systems have taken many forms. In recent years such systems have utilized electrical energy for their operation. The alarm or signal usually takes the form of a buzzer, bell or some audible alarm, but it should be understood the signals have also been of the visible type with the lighting of lamps or the like. In many instances the alarm system included both auidible and visible signals. Energizing the alarms has quite often been caused by the breaking of an electrical circuit or the breaking of a light beam created by a photo electric cell. In most instances the electrical energy used for the alarm system is the regular power supplied to the home or building by a power supply company. This type of power would, of course, be rendered inoperative merely by cutting the power company's supply line leading to the building.

The present invention utilizes an electric system but employs a battery so the interruption of power delivered to a building will not incapacitate the alarm. Others have used batteries to energize alarms but usually the circuitry has been such that plural batteries have been necessary for the divided circuits which invariably have been used. Also, in earlier devices the circuitry has been of the closed type where the battery or other electrical source is in constant use. Even though the drain of power may only be slight it makes battery powered alarms impractical as their life is materially shortened by constant use. The subject invention employs only a single battery for the electrical circuit and the circuit is of the open type so there is no draining of battery power except at the time the alarm is energized. As indicated in the ABSTRACT above the instant invention has the alarm signalling mechanism housed within a locked box and only the sensing switches are located externally of the box.

2. Description of the Prior Art

A search of prior patents turned up the following:

The 1896 U.S. Pat. to Coleman No. 570,906 on an Electric burglar Alarm shows and describes an alarm which is actuated by a differental in electrical current passing through a meter. Also, the device employs more than one battery.

Weatherby, Jr. U.S. Pat. No. 735,324 shows a locked box for an alarm mechanism. The box is constructed with an electrically energized screen lining which deters breaking into the box and when tampered with also causes an energizing of the alarm signal. The Weatherby circuit is normally closed so the battery is in slight use all of the time. Also it would appear that to be operative the Weatherby device would require separate batteries for each external circuit.

Gabel U.S. Pat. No. 1,196,674 shows an alarm system requiring three separate batteries and there is no disclosure of a locked box for the alarm mechanism of the system.

Gasser U.S. Pat. No. 1,578,980 shows a normally closed circuit alarm system so there is an electrical solenoid always energized when the alarm is set for operation. Also there is no disclosure of the box containing the alarm mechanism as being a locked box to bar unwarranted entry.

Spenard U.S. Pat. No. 2,874,376 shows a complicated alarm system employing three batteries of which one must be energized all of the time. Relays, resistors and capicitors are used in combination to effect the alarm.

Donaldson U.S. Pat. No. 2,927,311 shows an alarm system for a carrying case. This includes a closed circuit in which a battery is in constant use. The energized circuit operates a relay which is spring loaded to cause actuation of an alarm circuit when the energized circuit is de-energized.

SUMMARY OF THE INVENTION

A principal object of this invention is to provide a novel alarm system for easy and effective application to houses or commercial buildings.

An important object of this invention is to provide a novel burglar alarm system in which the audible or visible signal employed and its source of power are contained within a locked box to prevent silencing of the alarm once it is actuated.

Another important object of this invention is the provision of an alarm system as defined in the preceding object and which further includes a plurality of sensor switches disposed exteriorly of the box and associated with the building entry doors and windows to thus cause energizing of the alarm within the locked box when any one of the doors or windows are opened by unauthorized persons.

Still another important object of this invention is to provide a novel single battery powered burglar alarm system in which the electrical circuit is normally open and the battery is only used when the alarm is actuated.

Another and further important object of this invention is to provide an alarm system in which a plurality of switch elements may be used to sense door or window openings, some certain degree of heat, some certain pounds of pressure, or any other condition for which sensing may be desired.

Another and still further important object of this invention is to provide a burglar alarm system for buildings which can be put into and out of service from both the interior and the exterior of the building.

A still further important object of this invention is to provide an alarm system for buildings which may be used not only to warn of intruders but also to indicate to the user whether any doors or windows are open when he retires for the night or when he might be leaving the premises.

Other and further important objects and advantages will become apparent from the following description in the specification and from the accompanying drawings.

IN THE DRAWINGS:

FIG. 1 is a diagrammatic plan view of a building having the burglar alarm system of this invention embodied therein.

FIG. 2 is a circuit diagram of the burglar alarm system of this invention and as shown in FIG. 1.

AS SHOWN IN THE DRAWINGS:

The reference numeral **10** indicates generally a representation of the outer wall of a building to which the burglar alarm system of this invention is applied. The building is provided with an openable door **11** and an openable window **12.** It should of course be understood that any number of doors and windows may be in the building and the alarm adapted to such a building. The two openings are merely representative. The building

is shown provided with the representation of an inner wall or partition **13** to which parts of the alarm are mounted.

The alarm system importantly includes a locked box **14** which houses the signal part of the alarm. The box is preferably mounted within the building being protected by the alarm system and as shown in FIG. **1** the box is supported on the interior partition wall **13.** A master switch **15** is mounted on the outside of the building wall **10** and is preferably key operated to prevent tampering therewith. The switch **15** is used in the alarm system to either place it in position to be operated or not-operated. A similar master switch **16** is mounted on the inside of the building wall **10** and is for the same purpose as switch **15.** The two master switches are mounted in parallel as will be seen later in a detailed review of the circuit diagram of FIG. **2.** One or the other of such master switches must be turned to an "ON" position for the alarm to be capable of being triggered in response to certain sensor switches being actuated as will later be described.

The alarm system includes a plurality of sensors to set off the alarm when certain conditions are met. These would certainly include the opening of doors and windows. Also a user of the system might want to have the alarm energized if the temperature in the building reached a certain degree to thereby permit him to be warned for an impending fire. Or, in some instances the user might want to signal the reaching of a certain pressure and a sensor could be used for that too. A first sensor switch **17** is mounted on the inside of the building wall **10** adjacent the door **11.** The switch is preferably of the type having a spring urged member either in the form of an arm or a button which maintains the switch normally open until the door is opened. And, the door may be of the swingable type or may be slidably opened and still function to cause a closing of the switch and thus a completing of the alarm circuit when the door is opened. The closing of the switch **17** is arranged to actuate the signal in the box **14** and further as will later be described the signal continues to be given even though the sensing switch **17** would be reopened by a closing of the door.

Another sensor switch **18** is mounted on the inside of the building wall **10** adjacent the window **12.** The switch **18** is in parallel with the sensor switch **17.** As in the case of the switch **17** the switch **18** is normally open until the window is wrongfully opened by an intruder at which time the switch closes and actuates the signal within the locked box **14.** As previously stated the single door and the single window are merely representative of how the sensor switches would be mounted on these building openings. In most buildings there are plural doors and plural windows and a sensor switch would be mounted on each opening. All of the sensor switches for building openings are mounted in parallel in the circuit so that if any one of the normally open switches is closed by an opening of the door or window the signal is actuated.

As best shown in FIG. **2** another sensor switch **19** is employed in the alarm circuit to sense heat, pressure or some other sensible condition. Three such sensing switches are shown in parallel with each other and are identified as **19, 19***a* and **19***b*. It should thus be obvious that one or more of these sensing switches could be used to alert the building occupants of the attainment of a dangerous degree of heat and if pressure might be a problem in certain industrial buildings the sensing switches could be used to denote the attainment of a dangerously high pressure in some particular area of the building where the switch is located.

The locked box **14** contains all the actual alarm mechanisms and those mechanisms are triggered into operation by the various sensor switches located outside of and likely at a remote position from the locked box **14.** Within the box is a battery **20** which supplies the electrical energy for the alarm. The box also contains the signal giving device as shown at **21.** The signal producing device may be either a bell, a buzzer or some visible signal such as a lamp or even an intermittently flashing lamp. Also, the signal may be a combination of both audible and visible devices. In the present instance a bell symbol in the drawing has been shown to indicate the alarm signal. The box **14** houses an electrically operated solenoid or electro-magnet **22.** The solenoid includes a coil **23** which has a slidable core **24** cooperating therewith. A spring **25** surrounds the core **24** and normally urges that core away from the coil **23.** A switch shifting arm **26** is carried at the outer end of the core **24.** When the solenoid coil **23** is energized the core **24** is pulled into the coil thus causing the actuating arm **26** to simultaneously pull inwardly and engages and operates a three-way switch **27.** The switch **27** is equipped with a switch arm **28** which is capable of swinging movement back and forth between two spaced apart stationary arms **29** and **30.** The switch **27** is provided with a slidable rod member **31** encompassing the swinging switch arm **28** and upon movement of the rod **31** the arm **28** is shifted from engagement with one stationary arm **29** to the other arm **30** or vice versa. The arm **28** is hinged as shown at **32.** The rod **31** is provided with a manually engageable knob **33** on one end thereof. After the solenoid has been actuated to move the three-way switch's swinging arm **28** into engagement with the stationary arm **30** it will remain in that engagement until it is manually returned by pressing the top of the knob **33** to thereby swing the arm **28** back into engagement with the stationary arm **29.** In effect the solenoid and the three-way switch may be broadly termed a shiftable means which is electrically operated in one direction and manually operable in the other direction.

The circuit within the locked box includes a manually operable switch **34** to engage or disengage the battery **20** with the signal **21.** This should be considered an optional control in the circuit. If switch **34** is used the box circuit may be disengaged from power and thus render the whole alarm system incapable of operation. Without the manual switch **34** the interior circuit would be operable at all times providing the manually movable rod **31** is reset after a previous alarm. Obviously this would be done as the alarm continues to give the alarm signal until the operator depresses the button **33.**

Another part of the interior circuit is a balancing electrical resistor **35.** This may or may not have to be used and its use is determined by the length of runs of the sensing circuits which are located outside of the locked box **14.** If long communicating wires are required in the sensing circuits to reach remote door or window openings a regular size battery might be inadequate. However, when a larger battery is used to supply adequate current to compensate for the long wire runs the large battery might be too strong for the alarm signal **21.** The balancing resistor is utilized to make any

battery that might be used in the system compatible with the alarm signals used. Thus by placing the resistor 35 in series with the signal or alarm 21 the electrical output of the battery is divided so that it is safe for the battery to operate the signal 21.

The battery 20 is equipped with two output terminals 36 and 37. These terminals are in certain situations joined to the input terminals 38 and 39 on the electrically operated signal 21. The circuitry which makes this joining of the power source with the alarm is herein defined. An electrical wire 40 joins the battery post 36 with the post 38 of the signal 21. Spaced power input posts 41 and 42 are provided on the solenoid 23 to thereby permit actuation of the solenoid when electric energy is delivered thereto. The wire 40 is also electrically connected to the post 41 of the solenoid 23. An electrical wire 43 joins the battery post 37 with the input or feed post 39 of the signal 21. The three-way switch 27 is interposed in the line 43. A power input post 44 is provided on the three-way switch 27 adjacent the hinge 32 of the swinging arm 28. Power posts 45 and 46 are respectively disposed on the inner ends of the stationary arms 29 and 30 of the three-way switch 27. The electrical wire 40 consists of a first wire part 47 which extends from the battery terminal 36 to the solenoid post 41 and a second part 48 which extends from the solenoid post 41 to the feed-in delivery post 38 on the signal 21. The electrical wire 43 is also divided into increments. A first part 49 of the wire 43 extends from the battery terminal 37 to the post 44 on the three-way switch 27. A second part 50 of the electrical wire 43 extends from the post 46 of the three-way switch 27 to the post 39 on the signal 21. The manually operable switch 34 and the electrical balancing resistor 35 are interposed in the electrical wire 50. A part 51 of the wire 50 extends from the post 46 on the three-way switch 27 to a first post 52 on the switch 34. Another part 53 of the electrical wire 50 extends from a second post 54 on the switch 34 to a first post 55 on the balancing resistor 35. Another part 56 of the electrical wire 50 extends from a second post 57 on the resistor 35 to the post 39 on the signal 21. The above wiring generally completes the circuitry for the components of the interior of the locked box 14.

Outside of the sealed box 14 are the controls and the sensing circuits which feed actuating signals to the elements on the interior of the box. The switch 15 is equipped with spaced apart electrical input posts 58 and 59. Similarly the switch 16 includes spaced apart posts 60 and 61. An electrical wire 62 joins the posts 58 and 60 and another electrical wire 63 joins the posts 59 and 61 to thus place the two switches 15 and 16 in parallel in the overall circuit of this burglar alarm mechanism. An electrical wire 64 joins the wire 62 at 65 and extends to a post 66 on the sensor switch 17 and also to post 67 on the sensor switch 18. An electrical wire 68 joins the wire 63 at 69 and extends to the stationary arm 29 of the three-way switch 27 located in the interior of the locked box 14. Thus the sensor switches which sense the opening of doors or windows are joined to the circuit within the box as above described. An electrical wire 70 is joined to the post 42 on the solenoid 22 and extends to a post 71 on the switch 17 and to a post 72 on the switch 18. Thus the sensing switches concerned with the unlawful entry of persons into the building have the two electrical wires 68 and 70 entering the locked box 14 and there they are joined with the circuitry in the interior of the box. It should be noted that one of the master switches 15 and/or 16 must be placed in an on position for the sensors to have affect on the alarm within the box 14.

The other sensors 19 are also joined to the circuitry in the interior of the locked box 14 but they are distinguished from the door and window sensing switches by not requiring the master switches to be placed in an on position and by not requiring operation of the solenoid 22 prior to energizing the alarm signal 21. Thus if there is a fire in the building and one of the heat sensing switches 19 is actuated the alarm signal will be immediately sounded regardless of the condition of the master switches 15 and 16. An electrical wire 73 has one end thereof joined to the stationary arm 30 of the three-way switch 27 within the box 14. The other end of the wire 73 extends to a post 74 on the sensor switch 19, to a post 75 on the sensor switch 19*a*, and to a post 76 on the sensor switch 19*b*. An electrical wire 77 has one end thereof joined to the stationary arm 29 of the three-way switch 27 in the interior of the box 14. The other end of the wire 77 extends to a post 78 on the sensor switch 19, to a post 79 on the sensor switch 19*a*, and to a post 80 on the sensor switch 19*b*.

OPERATION

The alarm system of this invention is designed primarily as a burglar alarm but it should be understood it is also useable as an alarm for sensing different conditions in the building such as heat and pressure. The division between the two parts of the alarm system permits the sensing of opening doors and windows to be controlled by certain strategically located master switches and also once the alarm signal 21 is actuated by the doors or windows being opened that alarm continues to be sounded until the locked box 14 is opened and the device reset. In contradistinction the heat and pressure signalling of the alarm does not require any particular setting of the master switches and entry to the box 14 is not required to stop the signal from sounding. It is sufficient only that the sensing switch be reopened by an alleviation of the severe heat or pressure condition. However, closing of the doors or windows after once opened will not stop the alarm from sounding.

We will first consider the operation of the door and window alarm portion of the system. As stated above the sensing switches 17 and 18 are all arranged so that a closed condition of the closure will retain the sensing switch open. Also, it should be remembered that any number of such building openings may be fitted with sensing switches comparable to those shown at 17 and 18. The switches need only be arranged in parallel and joined to the electrical circuit wires 68 and 70. In such an arrangement the closing of any one of the sensing switches 17 and/or 18 will cause a sounding of the alarm signal 21. In normal usage of the system the master switches 15 and 16 have their switch arms 81 and 82 respectively swung to an open position as shown in the dashed line positions of the drawing. When it is desired to set the system up for operation one of these switch arms 81 and 82 must be closed to thereby make the electrical wire 68 continuous from the sensing switches 17 and 18 to the interior of the box 14. As previously stated the master switches are in parallel with each other but in series with the line 68. Thus either switch being on will complete the line 68. If the opera-

tor is going to stay in the building when the alarm is on he just manually closes switch arm **82** so that posts **60** and **61** are electrically joined. However, if the operator is going to leave the premises he would not be able to turn on switch **16** and then open the door to leave the building without energizing the alarm. Thus the system includes a master switch **15** located on the outside of the building **10.** It is preferable that the external switch **15** be controlled by a key rather than an exposed manually operable switch which could be the subject of easy tampering. Now on leaving the building the operator of the system leaves the interior switch **16** opened and after closing the door **11** takes his key and turns the switch arm **81** so that it joins the electrical posts **58** and **59** and thereupon completes a through passage of the line **68.** Now the alarm system is set and the operator can leave the building knowing that if someone tries to make an unlawful entry the alarm signal **21** will be sounded and will continue to sound until access is gained to the interior of the locked box **14.**

Let us assume someone does try to enter the building **10** when the alarm is set as above described. The intruder might pick the usual lock on the door **11** but when he opens the door about its hinges a switch arm **83** is arranged to move from an open or inoperative position as shown in FIG. **2** to the dashed line position to thereupon join the electrical posts **66** and **71** and thereby complete the circuit between the electrical wires **68** and **70.** This brings electrical energy from the battery to the solenoid **22** and causes the slidable core **24** to be pulled into the coil **23** against the action of the spring **25.** This in turn operates the three-way switch **27** and mechanically shifts the switch arm **28** from its engagement with the post **45** to engagement with the post **46.** This immediately completes the path for electrical energy to pass from the battery **20** to the alarm signal **21.** The alarm is thus sounded and continues to sound even though the circuitry to the solenoid is discontinued and the core is permitted to move outwardly by reason of the action of the core returning spring **25.** Why? Because the arm **26** is not physically connected to the slidable rod **31** and that rod **31** stays in its originally moved position until manually reset by the returning operator who must open the locked box **14** and place his finger on the button **33** and push that slidable rod member **31** in an axial direction to thereupon shut off the sounding alarm **21.**

The same condition exists when a movable switch arm **84** on the switch **18** is closed by the unwarranted opening of the window **12.** This causes a joining of the electrical posts **67** and **72** and again the solenoid is operated to indirectly cause a sounding of the alarm signal **21** in the same manner as described for the door sensing switch **17.**

In addition to the burglar features of the alarm system it may also be used as a test to determine whether all the doors and windows in the building are closed when retiring or leaving the building. This is done merely by switching on the master switch **16** and if the alarm signal **21** is energized and sounds then one or more of the doors or windows in the building is open and should be closed.

Now let us pursue the operation of the sensing switches **19.** We shall assume that switch **19** is a heat operable switch arranged and constructed so that upon the attainment of a certain degree of heat a switch arm **85** will close to thereupon electrically join the posts **74** and **78** and thus close the circuit between the electrical wires **73** and **77.** This causes an immediate bypassing of the three-way switch **27** and delivers electrical energy from the battery **20** to the alarm signal **21.** The alarm sounds. The occupants of the building are thus warned that an excessive heat is occurring in the buildng and steps must be taken to remove themselves or to find the cause of the heat and stop it. In large buildings it might be desirable to have several heat sensing switches in operation, such as **19, 19***a* and **19***b*. These switches would be located at strategic positions around the building to sense high heat in those different locations. All or each one separately could give the alarm. If the operator desires to know which one of the heat sensing switches is giving the alarm signal the system could be provided with manually operable switches (not shown) so that the operator could cut out of the system any one or more of these switches until he found which one was energizing the alarm. This should be considered as an optional feature of this invention.

Or, the sensing switches **19** could be used to sense for pressure or some other sensible condition. Here again the pressure sensing is superposed on the alarm system so that no prepositioning of the master switches **15** and **16** need be made and the operation of the solenoid is not a prerequisite to the operation or sounding of the alarm signal **21.** The switch **19***a* is provided with a swingable operating arm **86** and the switch **19***b* is also provided with a swingable operating switch arm **87.** When any one of the switch arms **85, 86,** or **87** is closed the alarm is sounded.

Of course, the alarm system of this invention may operate with just the door and window sensing portion or vice-versa with only the heat or pressure sensing switches. In order to facilitate the connection of the external electrical wires **68, 70, 73** and **77** with the interior wires of the locked box **14** separable pull connections **88, 89, 90,** and **91** are provided at a location just inside the locked and sealed box **14.** A clamp **92** is arranged to anchor the interior wires which are joined to the connecting elements **88, 89, 90,** and **91.** Thus, if a burglar pulls the external wires leading into the box **14** in the hope of silencing the alarm he will merely pull the wires out of their connectors without in any way disturbing or straining the interior wiring.

As stated above when the external lines are very long it may be necessary to employ a larger battery in wyich event a balancing resistor **35** is employed to permit that greater voltage battery to operate the signal **21** without damage thereto. Obviously the use of a balancing resistor is determined only by the extent of the lines to the sensor switches. Also, the manually operable switch **34** in the interior of the box **14** is optional. It is used only when you want to completely shut off the alarm mechanism regardless of what sensor switches might be closed.

The alarm system of this invention operates with but a single battery and there is no live circuit at any time until one of the sensor switches is closed. Hence, the battery powered device may be effective over long periods of time. Also, the fact it may be used as a test to find out whether any doors or windows in a large building are open is a great advantage.

I am aware that numerous details of construction may be varied over a wide range without departing from the principles disclosed herein and I therefore do

not propose limiting the patent granted hereon otherwise than as necessitated by the appended claims.

What is claimed is:

1. An alarm system for sensing the opening of doors and windows in a building comprising a locked box located in the interior of the building, said locked box having therein a battery, an alarm signal, a solenoid, a three-way switch operable by the solenoid only in one direction and manually in the other direction, and electrical wiring joining those devices in a circuit, and sensing switches located adjacent the doors and windows of the building and externally of the locked box, said sensing switches being normally open when the doors and windows are closed and arranged to close when the doors and windows are opened, and said sensing switches having lead wires entering the locked box and arranged upon closing of one or more sensing switches to energize the solenoid which actuates the three-way switch and thereupon sounds the alarm signal, and said signal continues to sound until the three-way switch is manually returned to its initial position.

2. An alarm system for sensing the opening of doors and windows in a building comprising a locked box located in the interior of the building, said locked box having therewithin a battery, an alarm signal, a solenoid, a three-way switch operable by the solenoid only in one direction and manually in the other direction, and electrical wiring joining those devices in a circuit, said three-way switch interposed in said circuit between the battery and the alarm signal, said three-way switch in one position thereof failing to complete the circuit from the battery to the alarm signal and in another position thereof completing the circuit from the battery to the alarm signal, and a plurality of sensing switches wired in parallel with each other, one of said sensing switches located adjacent each door and each window of the building and externally of the locked box, said sensing switches being normally open when the doors and windows are closed and arranged to close when the doors and windows are opened, and said sensing switches having lead wires entering the locked box and arranged upon closing of one or more sensing switches to energize the solenoid which actuates the three-way switch and moves it to the position thereof which completes the circuit to the alarm signal and thereupon sounds the alarm signal, and said signal continues to sound until the three-way switch is manually returned to its initial position.

3. An alarm system for sensing the opening of doors and windows in a building comprising a locked box located inside the building, said locked box having therein a battery, an alarm signal, a solenoid, a three-way switch operable by the solenoid only in one direction and manually in the other direction, and electrical wiring joining those devices in a circuit, and a plurality of sensing switches wired in parallel with each other, one of said sensing switches located adjacent each door and each window of the building and externally of the locked box, said sensing switches being normally open when the doors and windows are closed and arranged to close when the doors and windows are opened, and said sensing switches having a pair of lead wires entering the locked box, manually operable on and off switch means arranged in series with one of said lead wires, and arranged when one or more of said sensing switches is closed and the manually operable switch means is on the solenoid which actuates the three-way switch is energized and thereupon sounds the alarm signal, and said signal continues to sound until the three-way switch is manually returned to its initial position.

4. A device as set forth in claim 3 in which said manually operable on and off switch means comprises a pair of switches in parallel with each other, one of said switches located on the inside of the building and the other located on the outside of the building.

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