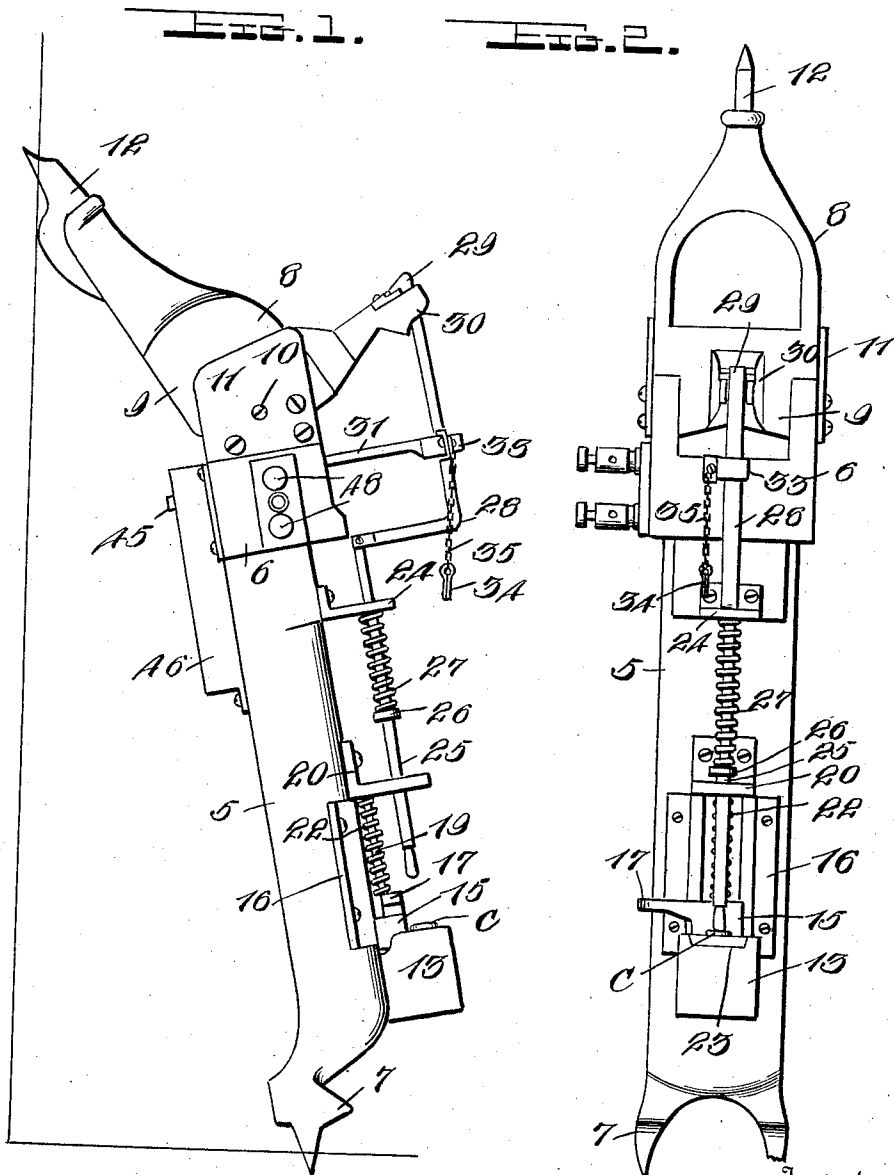


V. BUTLER.
ALARM DEVICE.
APPLICATION FILED AUG. 9, 1911.

1,037,432.

Patented Sept. 3, 1912.
3 SHEETS—SHEET 1.



Witnesses

W. H. Deane
A. B. Norton.

Inventor
Vincent Butler,

By *Watson E. Coleman*
Attorney

V. BUTLER.
ALARM DEVICE.
APPLICATION FILED AUG. 9, 1911.

1,037,432.

Patented Sept. 3, 1912.
3 SHEETS—SHEET 2.

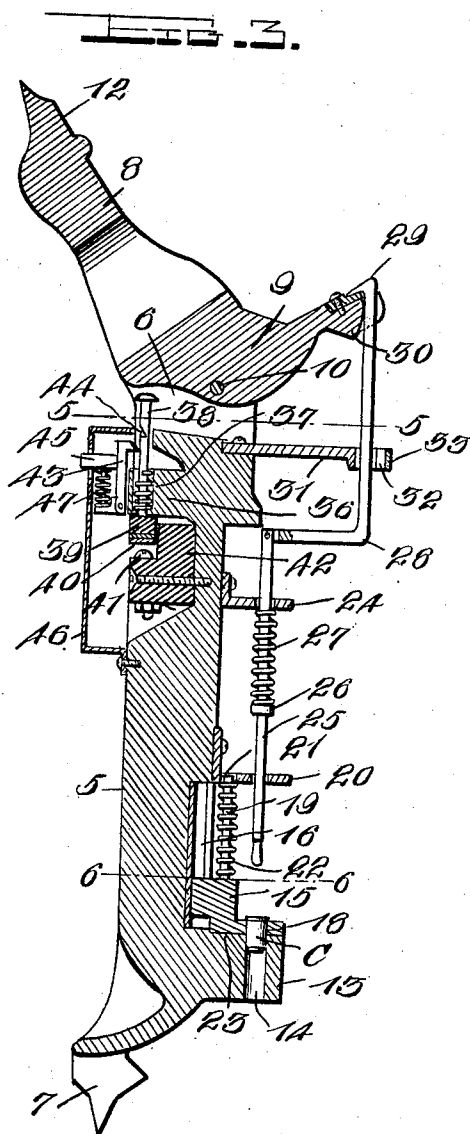
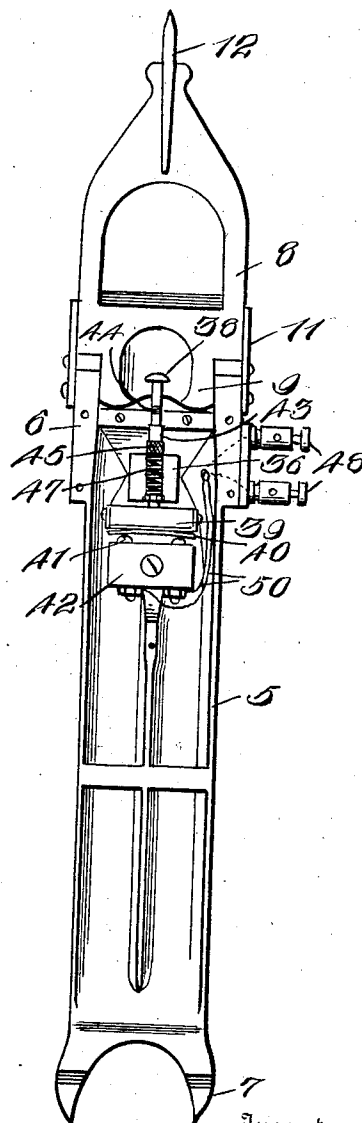


Fig. 4.



Inventor
Vincent Butler,

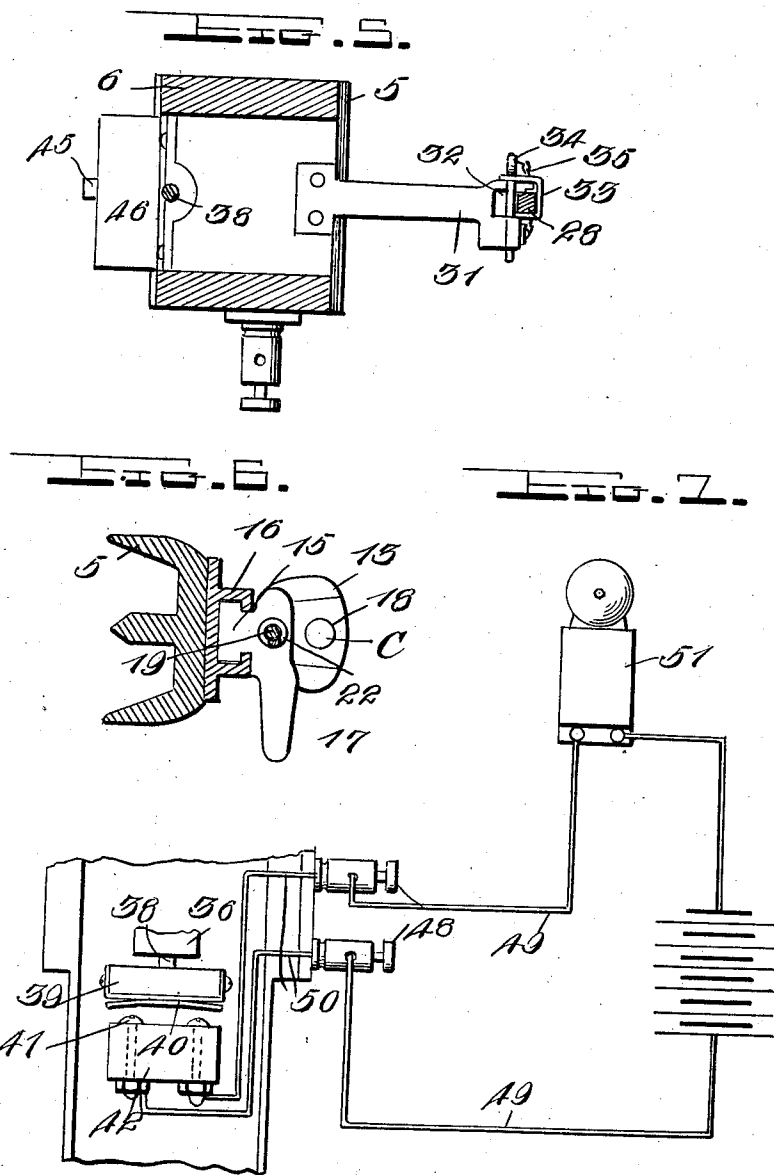
Witnesses
G. B. Norton

By Watson E. Coleman,
Attorney

1,037,432.

V. BUTLER.
ALARM DEVICE.
APPLICATION FILED AUG. 9, 1911.

Patented Sept. 3, 1912.
3 SHEETS—SHEET 3.



Witnesses

G. B. Norton

G. B. Norton

Inventor
Vincent Butler,

By *Watson E. Coleman*
Attorney

UNITED STATES PATENT OFFICE.

VINCENT BUTLER, OF WASHINGTON, DISTRICT OF COLUMBIA.

ALARM DEVICE.

1,037,432.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed August 9, 1911. Serial No. 643,118.

To all whom it may concern:

Be it known that I, VINCENT BUTLER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Alarm Devices, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to alarm devices and more particularly to an improved burglar alarm of that type which is adapted for application to a door or window.

The invention has for its primary object the provision of a simple and efficient alarm device of the above character which will be very positive in its action.

A further object of the invention is to provide an alarm device wherein a cartridge is employed for the purpose of giving the alarm, and novel means for discharging the cartridge upon an attempt to open the door or window.

Still another object of the invention is to provide a burglar alarm including a body and a trigger block pivotally mounted therein, an electrical circuit including an alarm bell and means automatically actuated by the trigger block to close the circuit whereby the alarm is sounded.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved burglar alarm showing the same applied to a door; Fig. 2 is a front elevation; Fig. 3 is a longitudinal section of the device. Fig. 4 is a rear elevation, the protecting housing being removed. Fig. 5 is a section taken on the line 5—5 of Fig. 3. Fig. 6 is a detail section taken on the line 6—6 of Fig. 3. Fig. 7 is a diagrammatic view of the electrical bell circuit and a fragmentary elevation of the device showing the connections thereto.

Referring in detail to the drawings 5 designates the body which is in the form of an integral casting provided at one end with a bifurcated head or enlargement 6. The other end of the body has formed thereon the spurs 7 which are adapted to bite into the floor and hold the device in proper position against the door. In the bifurcated head 6 of the body a trigger block 8 is pivot-

ally mounted, said block being provided with a reduced portion 9 which is disposed in the bifurcation of the head and has formed upon opposite sides thereof the pivot studs 10 which are loosely journaled in openings in opposite sides of the head 6. Guard plates 11 are secured to the opposite sides of the head 6 and project beyond said head upon the sides of the trigger block. These guard plates relieve the pivots 10 of undue strains upon lateral pressure on the trigger block. The block 8 is provided with a single spur 12 which is adapted to be engaged with the door whereby the trigger block is retained in its set position as will be clearly apparent from an inspection of Fig. 1.

Upon the end of the body 5 on which the spurs 7 are formed, a lug or projection 13 is provided and said lug has a cartridge chamber 14 formed therein which is adapted to receive a cartridge C. In order to facilitate the insertion and removal of the cartridge to and from the chamber 14, I provide the sliding block 15 which is mounted between the spaced parallel guide bars 16 rigidly secured to the body bar 5. This block is formed with a laterally extending finger-piece 17 and an opening 18 for the reception of the cartridge. A longitudinally extending rod 19 is rigidly secured at one of its ends to the block 15 and extends through a guide opening 21 formed in the lower end of a bracket 20 which is suitably secured upon the base 5. A coiled spring 22 is arranged upon the rod 19 and is disposed between the bracket 20 and the cartridge block 15. The chambered lug 13 is provided with a recess 23 in one end to receive that portion of the block 15 in which the cartridge is arranged, said cartridge projecting beyond the block and into the chamber 14.

A second bracket 24 is secured upon the base 5 in spaced relation to the bracket 20 and these brackets are provided with suitable apertures in which the hammer bar 25 is movably disposed. This hammer bar is provided intermediate of its ends and between said brackets with a collar 26 and a spring 27 is arranged upon the bar between this collar and the bracket 24, said spring acting to normally force said hammer bar into contact with the cartridge C. To one end of the bar 25 the trigger 28 is pivotally connected. This trigger is of angular form and the longitudinally disposed portion thereof has a catch shoulder 29 formed upon

its extremity. Upon the block 8 an arm 30 is formed, and said arm is recessed at its end to receive the end of the trigger bar. The catch shoulder 29 is adapted to be engaged by said arm when the block 8 is rocked in the end of the body bar whereby the hammer bar 25 is retracted, or drawn through the brackets 20 and 24 away from the cartridge and the spring 27 placed under compression. To the head 6 of the body one end of an arm 31 is rigidly fixed. The other end of said arm is recessed as at 32 to receive the longitudinally disposed portion of the trigger bar 28. To this arm a U-shaped guide plate 33 is secured. This plate extends over the trigger bar and limits its outward pivotal movement upon the end of the hammer bar 25. One end of the plate 33 is provided with an aperture to receive a pin 34 on the end of a short chain 35 which is secured to the arm. This pin is adapted to be inserted through said aperture and beneath the trigger bar to dispose the catch shoulder 29 on the end of said bar out of position for engagement by the arm 30 formed on the block 8. The purpose of such an arrangement will be apparent from the following description.

As thus far described the operation of the device is as follows. The cartridge is first placed in position in the block 15 and the chamber 14, and the device then disposed at an inclination against the face of the door, the spurs 7 on the lower end of the body 5 being firmly embedded in the floor surface. The operator now moves the block 8 in the end of the body 5 so as to dispose the same at an angle with relation to said body bar, and in such movement of the block, the hammer bar 25 is retracted as previously described. The door being closed, the spur on the end of the block 8 is engaged with the door whereby said block is retained in its angular position and the hammer held set. Should an attempt be made to open the door, considerable force must be applied thereto which will move the body bar 5 into a vertical position and thereby rotate the block 8 upon its pivot 10 to release the trigger 28 so that the spring 27 exerts its force upon the hammer bar and discharges the same against the cap of the cartridge so that the same is exploded. The noise of the exploding cartridge attracts the attention of the occupants of the dwelling and frightens the intruder.

In addition to the use of an explosive cartridge in connection with the device, I have also provided means whereby an electric alarm bell may be automatically rung. I will now proceed to describe in detail the manner in which the electric circuit is automatically connected.

The underside of the casting 5 has a boss 36 formed thereon which is provided with

a longitudinal bore 37 in which a spring held pin 38 is disposed. Upon one end of this pin a block of insulation 39 is secured, and said block carries a contact plate 40 which is adapted to engage the contact screws 41 arranged on an insulating block 42 secured to the base. Upon the boss 36 a catch 43 is pivotally mounted at one of its ends and at its free end engages with a shoulder 44 formed upon the longitudinally movable pin 38. This catch is provided with a finger-piece 45 which projects through an opening in the case or housing 46 which is suitably secured upon the base 5 and incloses and protects the various elements of the switch. Between the finger-piece 45 and a projection on the boss 36 to which the catch is pivoted, a coiled spring 47 is arranged, said spring normally acting to hold the catch in engagement with the shoulder on the pin 37. Upon one side of the head 6 of the base 5 the binding posts 48 are arranged, and to these binding posts the battery wires 49 are connected. Conducting wires 50 lead from the contact screws 41 to the binding post and in the electrical circuit an alarm bell 51 of any preferred form is located. When it is desired to use the bell for sounding the alarm, the trigger bar 28 is held in its inoperative position by means of the pin 34 and the device is arranged against the door as previously explained. Upon the attempted opening of the door, the block which is resting against the end of the pin 38 will be moved to force said pin inwardly whereby the contact carrying block on the end of said pin is also moved and the contact plate engaged with the screws 41. The spring surrounding the pin 38 is also placed under compression while the catch 43 is engaged with the shoulder of said pin to hold the same against movement under the action of the spring. It will thus be seen that the electrical circuit is connected and the alarm bell rung. The catch 43 may be released from engagement with the pin 38 by engaging the protruding portion of the finger-piece 45 with the thumb and moving the catch outwardly.

From the foregoing it is believed that the construction and manner of operation of my improved alarm device will be readily understood.

The device is applicable either to a door or window and will immediately and positively act to sound the alarm and notify the occupant of the apartment of the attempted intrusion. The device is also comparatively simple in its construction and therefore inexpensive to manufacture.

While I have shown and described the preferred construction and arrangement of the various parts, it will be understood that the device is susceptible of considerable modification without departing from the es-

essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:—

5 1. A burglar alarm comprising a body bar having an enlarged bifurcated head formed on one end, a trigger block pivotally mounted in said head and having an arm formed thereon, said body being provided with a
10 lug at its other end provided with a cartridge receiving chamber, means mounted upon the body for positioning the cartridge in said chamber and removing the same therefrom, a sliding hammer mounted on the
15 body to engage said cartridge and explode the same, and a trigger connected to said hammer and adapted for engagement with the arm on said block whereby the hammer is moved to its set position in the pivotal
20 movement of the block.

2. A burglar alarm comprising a body bar bifurcated at one end and having spurs formed upon its other end, a block pivotally mounted in the bifurcated end of the bar
25 and having an arm formed thereon, said body bar being provided with a cartridge chamber, a cartridge carrying block slidably mounted upon the bar whereby the cartridge may be inserted and removed from the
30 chamber, means normally holding said block against movement and yieldingly retaining the cartridge in position to be exploded, a spring pressed sliding hammer bar, and a trigger bar connected to said hammer bar
35 and engaging the arm on said pivoted block.

3. A burglar alarm comprising a body bar having spurs formed on one end, a block pivotally mounted in the other end of said bar and provided with a spur, said block
40 having an arm integrally formed therewith, a lug formed on the body bar provided with a cartridge chamber, a sliding cartridge carrying block, guides for said block secured to the body bar, a spring yieldingly holding
45 said block against sliding movement and normally acting to retain the cartridge in position to be exploded, guide brackets arranged upon the body bar, a sliding hammer bar mounted in said brackets, a spring acting
50 to project said hammer bar against the

cartridge to explode the same, and a trigger connected to said hammer bar and engaged with the arm on said block whereby the hammer bar is moved to its set position in the pivotal movement of the block.

55 4. A burglar alarm comprising a body bar, a block pivotally mounted in one end of said bar having an arm formed thereon, a chambered lug formed upon the body bar, a cartridge carrying block slidably mounted
60 on the bar and normally engaged with said lug to dispose the cartridge carried thereby within the chamber, a spring yieldingly holding said block against sliding movement, a spring pressed hammer mounted
65 upon the bar and adapted to engage the cartridge to explode the same, a trigger pivotally connected to said hammer and engaged with the arm on said block, a guide for said trigger mounted on the body bar, and means
70 for supporting said trigger in an inoperative position.

5. A burglar alarm comprising a body bar, a block pivotally mounted in one end of said bar having an arm formed thereon, a
75 chambered lug formed on the body bar, a cartridge carrier mounted on the bar to position the cartridge in the chamber or remove the same therefrom, a sliding spring pressed hammer mounted upon the body bar
80 to engage the cartridge and explode the same, a right-angular trigger bar pivotally connected to the hammer bar at one end and engaged at its other end with the arm on said block whereby said hammer bar is
85 moved to its set position in the pivotal movement of the block, an arm mounted on the body bar to guide said trigger, a plate arranged upon said arm and extending over the trigger to limit its outward pivotal
90 movement, and a pin adapted to be disposed beneath said trigger to hold the same in an inoperative position.

In testimony whereof I hereunto affix my signature in the presence of two witnesses. 95

VINCENT BUTLER.

Witnesses:

M. C. LYDDANE,
GEO. S. LIVINGSTON.