

Sept. 11, 1962

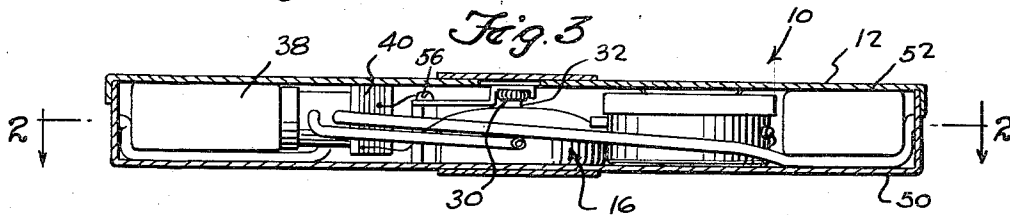
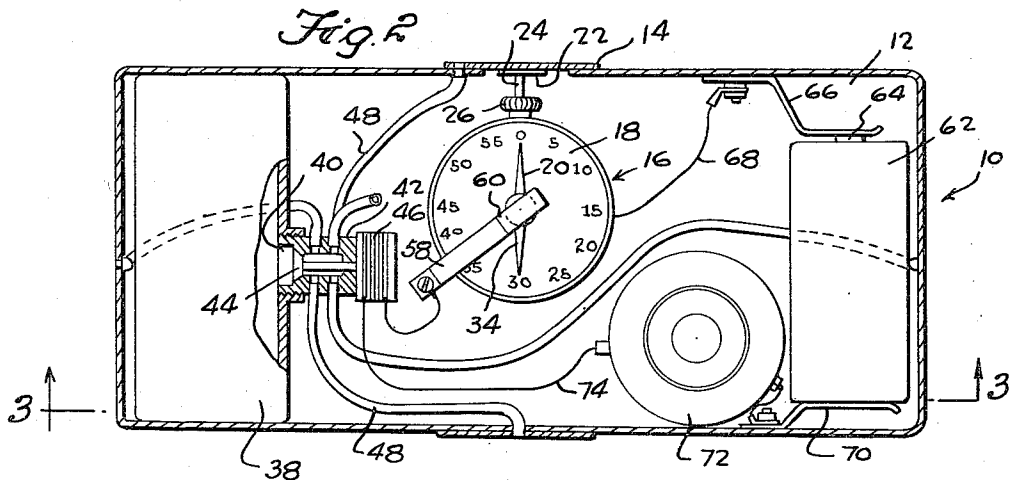
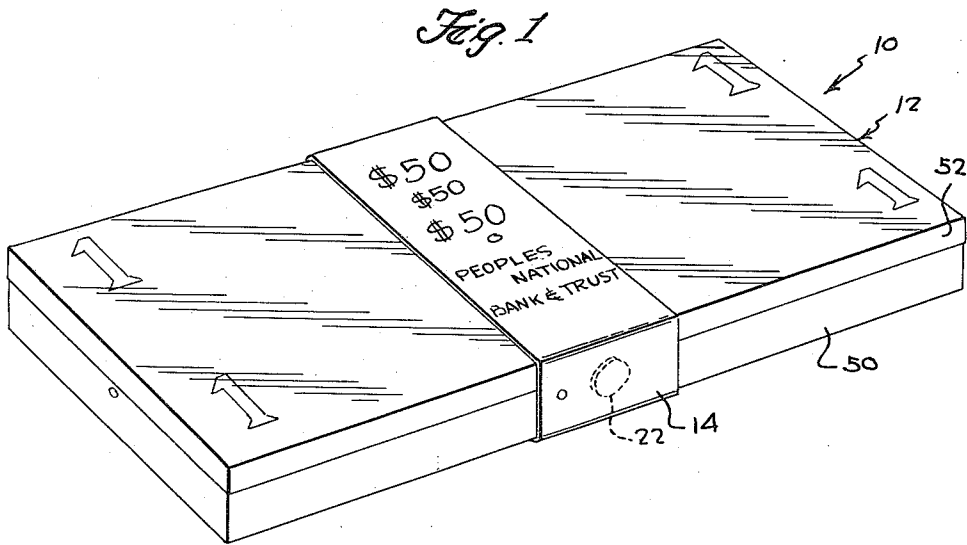
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
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THIEF DETECTING DEVICE

Filed April 1, 1960

2 Sheets-Sheet 1



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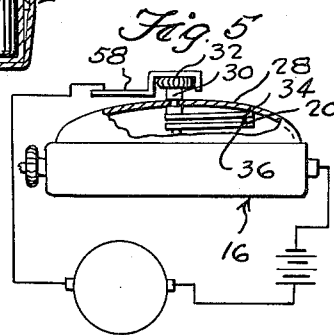
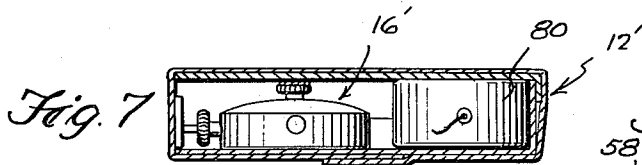
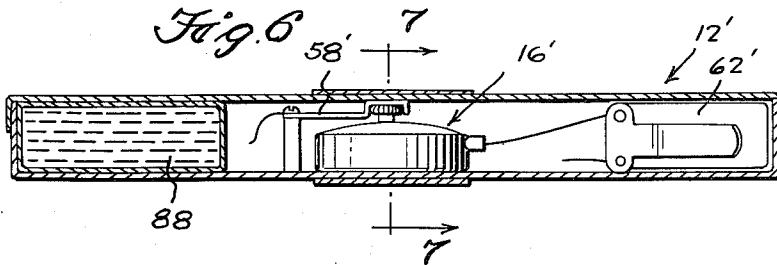
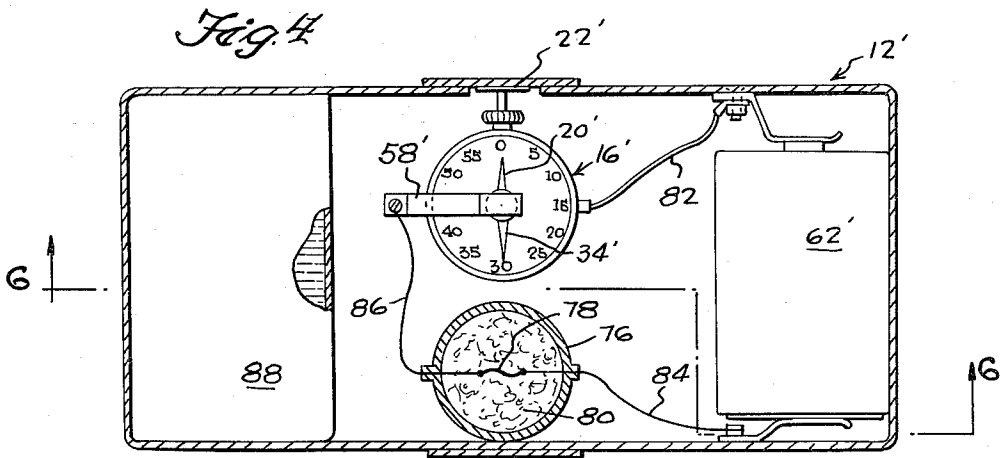
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THIEF DETECTING DEVICE

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2 Sheets-Sheet 2



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THIEF DETECTING DEVICE

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6 Claims. (Cl. 222—39)

The present invention relates to a thief detecting device.

Banks, loan companies, and other similar institutions, which normally have a considerable amount of currency on hand, are frequently victims of thieves or robbers who, under one pretense or another, or by threat of physical harm, demand delivery of the currency on hand. Often, such robberies are conducted without confusion. The institution employee, teller, bank officer, or the like, under threat of physical harm, ordinarily complies with the instructions and hands over the packages of paper currency that are available and are usually within sight of the robber.

An object of the present invention is to provide a thief detecting device which, when a thief snatches packages of currency from a bank teller or the like, applies an identifying substance to the packages and to the thief if he carries the packages on his person.

Another object of the present invention is to provide a thief detecting device which sprays an identifying substance such as a dye or the like so that if a thief snatches the device along with packages of paper currency, the currency will be stained and readily identifiable, the thief will be easily detected, any vehicle the thief attempts to escape in will be readily identified as being the escape vehicle, and the packages of currency stolen along with the device will be so marked as to be non-negotiable or negotiable only at great hazard to the thief.

A further object of the present invention is to provide a thief detecting device which is automatic in operation after a trigger element has been released and one which permits the thief to have an interval of time in which to make his get-away in order that any accomplices of the thief will be also detectable.

A still further object of the present invention is to provide a thief detecting device which is simple in structure, one requiring little or no inspection over a period of time to ensure its workability, and one which is economically feasible.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in conjunction with the annexed drawings, in which:

FIGURE 1 is an isometric view of the thief detecting device of the present invention;

FIGURE 2 is a view of the assembly shown in FIGURE 1 with the cover removed;

FIGURE 3 is a view taken on the line 3—3 of FIGURE 2;

FIGURE 4 is a view of a modified form of the invention with the cover removed;

FIGURE 5 is a view of the timing device of the assembly shown in either FIGURE 1 or FIGURE 4, a portion of the timing device being broken away, and the electrical circuit of the invention being shown schematically;

FIGURE 6 is a view taken on the line 6—6 of FIGURE 4; and

FIGURE 7 is a view taken on the line 7—7 of FIGURE 6.

Referring in greater detail to the drawings in which like numerals indicate like parts throughout the several views, with reference to the form of the invention shown in FIGURES 1 to 3, inclusive, the numeral 10 designates generally the device of the present invention and which comprises a casing 12 simulating a stack of bank notes held together by a band 14 which encompasses the stack.

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Within the casing 12 is a clock mechanism in the form of a stop watch of conventional construction in which a few alterations have been made as will be described, the stop watch or clock mechanism being designated generally by the reference numeral 16 in FIGURES 2 and 3. A dial 18 overlies the mechanism of the stop watch and an electrically conductive second hand is movable over the face of the dial 18 and serves as a first contact 20.

The stop watch is provided with the conventional releasable actuating element or button 22 on the free end of a stem 24 which projects from the case of the watch. A knob 26, rotatable about the stem 24, is connected to the mechanism of the watch for winding the same in the conventional manner.

The watch is so positioned within the casing 12 that the button 22 is disposed so as to be operated to the released position from a point exteriorly of the casing 12. In order to achieve this, the button 22 is contiguous to one side edge of the casing 12 and is covered by the band 14 which is flexible enough to permit the application of pressure by a finger to the button 22 to set the mechanism of the watch into action.

With particular reference to FIGURE 5, the crystal 28 of the watch 16 is provided with a hole in the center thereof through which extends a short stem 30 having on one end, exteriorly of the watch 16 a knob 32 and carrying on the other end an arm serving as a second contact 34. The contact 34 is in the path of movement of the hand or contact 20 as the latter moves in the clockwise direction about the dial 18 when released by the button 22.

The arm or second contact 34 is supported from the dial 18, by means of the crystal 28, and has a part 36 (FIGURE 5) engageable or contactable by the second hand or contact 20 as the latter moves about the dial 18.

With reference again to FIGURES 2 and 3, within the casing 12 is a pressurized container or cartridge 38 having a supply of a tell-tale substance therein, such substance being selected from any group of substances having vivid and identifying colors such as a liquid dye.

The cartridge 38 is provided on one side with an opening 40 in which is threadably engaged a valve housing 42. An openable and closable valve 44 normally closes the opening 40 and is actuated to open position upon energization of a solenoid 46 mounted on the free end of the housing 42.

A plurality of conduits, designated generally by the reference numeral 48, extend from the valve housing 42 to all sides of the casing 12 and connect the valve housing 42 in communication with the exterior of the casing 12.

The casing 12 is formed from a shallow metal box 50 having a cover 52. Projecting upwardly from the bottom of the box 50 (FIGURE 3) is a post 56 adjacent the watch 16. On the upper end of the post 56 is a spring-type strip of metal having one end secured to the upper end of the post 56 and the other end formed to a shallow cup encompassing the knob 32 on the stem 30. The spring strip is designated by the numeral 58 and the cup by the numeral 60.

In the end of the casing 12 remote from the cartridge 38 is a source of electric current or battery 62 having one terminal 64 connected by a strip 66 and wire 68 to the metallic frame of the watch 16. The other or shell 65 terminal of the battery 62 is connected by a strip 70 to one terminal of an electrically operable signal or alarm 72 which may be either a buzzer, siren, or other suitable source of high intensity sound.

The other terminal of the alarm 72 is connected to one side of the solenoid 46 which has its other side connected to the strip 58, completing the circuit of the sole-

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noid with the alarm and with the first contact 20 and second contact 34.

In use, the device 10 is positioned so as to represent a pile of currency identical to other packages or piles of currency in such institution where relatively large amounts of currency are kept at hand. When a person in charge of the currency is forced to hand over the currency to a thief or robber, pressure of a finger on the portion of the band 14 overlying the button 22 will set into operation the stop watch 16. After an interval of time determined by the setting of the arm or contact 34, the first contact 20 will contact the contact 34 and establish the circuit from the battery to the solenoid 46 and alarm 72, serving to release the liquid from the cartridge 38 and at the same time sound the alarm 72.

If the thief or robber has the device 10 on his person, the tell-tale substance from the cartridge 38 will be sprayed on to his clothing and over his hands. If the thief has carried the device then into an automobile, the automobile will be similarly smeared with the tell-tale substance from the cartridge 38.

With the alarm sounding and the presence of the tell-tale substance, identification and detection of the thief will be obvious and will permit recovery of the funds stolen.

In the form of the invention shown in FIGURES 4, and 6 and 7, in place of the solenoid operated valve 44, constituting an electrically actuable means operatively connected to the supply of the tell-tale substance, a small charge of explosive is contained within a cell or cartridge 76 disposed within the casing 12' adjacent the stop watch 16'.

Within the cartridge 76 is an electrically operable detonator 78 embedded in the explosive 80. An electrical conductor 82 connects one terminal of the battery 62' to the frame or shell of the watch 16' and another conductor 84 connects the other terminal of the battery 62' to one end of the detonator 78. The other end of the detonator 78 is connected by a conductor 86 to the spring strip 53' which completes the circuit to the arm or second contact 34', as previously described with reference to the form of the invention shown in FIGURES 1 to 3.

In this form of the invention, the tell-tale substance is contained in a frangible or rupturable container or cartridge 88 within the casing 12' at the end remote from the battery 62'.

In use, upon depressing of the button 22', the stop watch mechanism is set into operation and after the prescribed interval of time the contact 20' engages or contacts the contact 34' and establishes the circuit between the battery 62' and the detonator 78. This serves to rupture the casing 12' when the explosive 80 explodes and rupture of the cartridge 88 with subsequent discharging of the contents of the cartridge 88 in the area exteriorly of the casing 12' and staining of any individual within that area for later identification.

What is claimed is:

1. In a thief detecting device, a casing, a clock including a clock mechanism, a dial overlying said mechanism, an electrically conductive hand serving as a first contact and movable over the face of said dial, and a releasable actuating element normally holding the clock mechanism in inoperative position and shiftable to a released position to permit operation of said clock mechanism, said clock being positioned within said casing so as to be housed within said casing with the actuating element disposed so as to be operated to released position from a point exteriorly of said casing, a second contact supported from said dial and contactable by said first contact, a supply of tell-tale substance within said casing, an electrically actuable means operatively connected to said supply and operable to discharge said substance into an area exteriorly of said casing responsive to movement of said

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first contact into contact with said second contact, and a source of electric current within said casing and in circuit with said actuable means and said first and second contacts.

2. In a thief detecting device, a casing, a clock including a clock mechanism, a dial overlying said mechanism, an electrically conductive hand serving as a first contact and movable over the face of said dial, and a releasable actuating element normally holding the clock mechanism in inoperative position and shiftable to a released position to permit operation of said clock mechanism, said clock being positioned within said casing so as to be housed within said casing with the actuating element disposed so as to be operated to released position from a point exteriorly of said casing, a second contact supported from said dial and contactable by said first contact, a supply of tell-tale substance within said casing, an electrically actuable means embodying a solenoid valve operatively connected to said supply and operable to discharge said substance into an area exteriorly of said casing responsive to movement of said first contact into contact with said second contact, and a source of electric current within said casing and in circuit with said actuable means and said first and second contacts.

3. In a thief detecting device, a casing, a clock including a clock mechanism, a dial overlying said mechanism, an electrically conductive hand serving as a first contact and movable over the face of said dial, and a releasable actuating element normally holding the clock mechanism in inoperative position and shiftable to a released position to permit operation of said clock mechanism, said clock being positioned within said casing so as to be housed within said casing with the actuating element disposed so as to be operated to released position from a point exteriorly of said casing, a second contact supported from said dial and contactable by said first contact, a supply of tell-tale substance embodying a charge of explosive within said casing, an electrically actuable means embodying a detonator operable to explode said charge and discharge said substance into an area exteriorly of said casing responsive to movement of said first contact into contact with said second contact, and a source of electric current within said casing and in circuit with said actuable means and said first and second contacts.

4. In a thief detecting device, a casing, a clock including a clock mechanism, a dial overlying said mechanism, an electrically conductive hand serving as a first contact and movable over the face of said dial, and a releasable actuating element normally holding the clock mechanism in inoperative position and shiftable to a released position to permit operation of said clock mechanism, said clock being positioned within said casing so as to be housed within said casing with the actuating element disposed so as to be operated to released position from a point exteriorly of said casing, a second contact supported from said dial and contactable by said first contact, a cartridge within said casing, a charge of tell-tale liquid under pressure within said cartridge, a normally closed solenoid valve in communication with said cartridge, conduit means connecting said valve with the exterior of said casing, said valve being shiftable to open position responsive to movement of said first contact into contact with said second contact, and a source of electric current within said casing and in circuit with said solenoid valve and said first and second contacts.

5. In a thief detecting device, a casing, a clock including a clock mechanism, a dial overlying said mechanism, an electrically conductive hand serving as a first contact and movable over the face of said dial, and a releasable actuating element normally holding the clock mechanism in inoperative position and shiftable to a released position to permit operation of said clock mechanism, said clock being positioned within said casing so as to be housed within said casing with the actuating element disposed so as to be operated to released position from a point

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exteriorly of said casing, a second contact supported from said dial and contactable by said first contact, an electrically actuable signal within said casing, a cartridge within said casing, a charge of tell-tale liquid under pressure within said cartridge, a normally closed solenoid valve in communication with said cartridge, conduit means connecting said valve with the exterior of said casing, said valve being shiftable to open position responsive to movement of said first contact into contact with said second contact, and a source of electric current within said casing and in circuit with said signal, said solenoid valve, and said first and second contacts.

6. In a thief detecting device, a casing, a clock including a clock mechanism, a dial overlying said mechanism, an electrically conductive hand serving as a first contact and movable over the face of said dial, and a releasable actuating element normally holding the clock mechanism in inoperative position and shiftable to a released position to permit operation of said clock mechanism, said clock being positioned within said casing so as to be housed within said casing with the actuating element disposed so as to be operated to released position from a point exteriorly of said casing, a second contact

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supported from said dial and contactable by said first contact, a rupturable cartridge within said casing, a charge of tell-tale liquid under pressure within said cartridge, a charge of explosive within said cartridge, an electrically actuable detonator operable to explode said charge and rupture said cartridge and discharge said liquid into an area exteriorly of said casing responsive to movement of said first contact into contact with said second contact, and a source of electric current within said casing and in circuit with said detonator, and said first and second contacts.

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