May 19, 1936. C. R. SUTHERLAND 2,041,577

PROTECTIVE PACKET

Filed Dec. 22, 1930 2 Sheets-Sheet 1

Fig. 1.

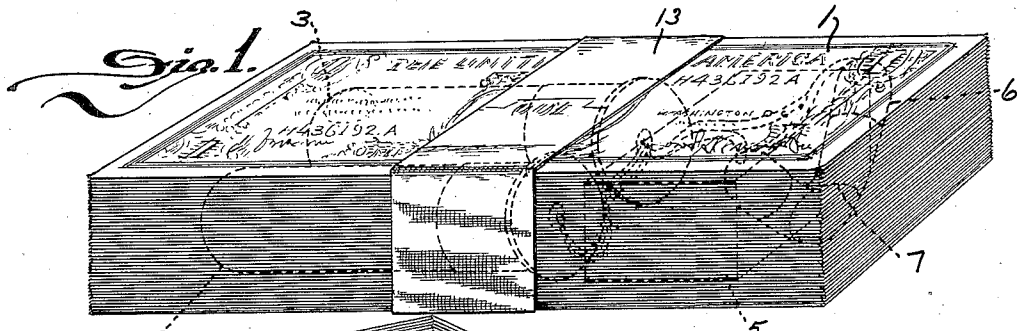


Fig. 2.

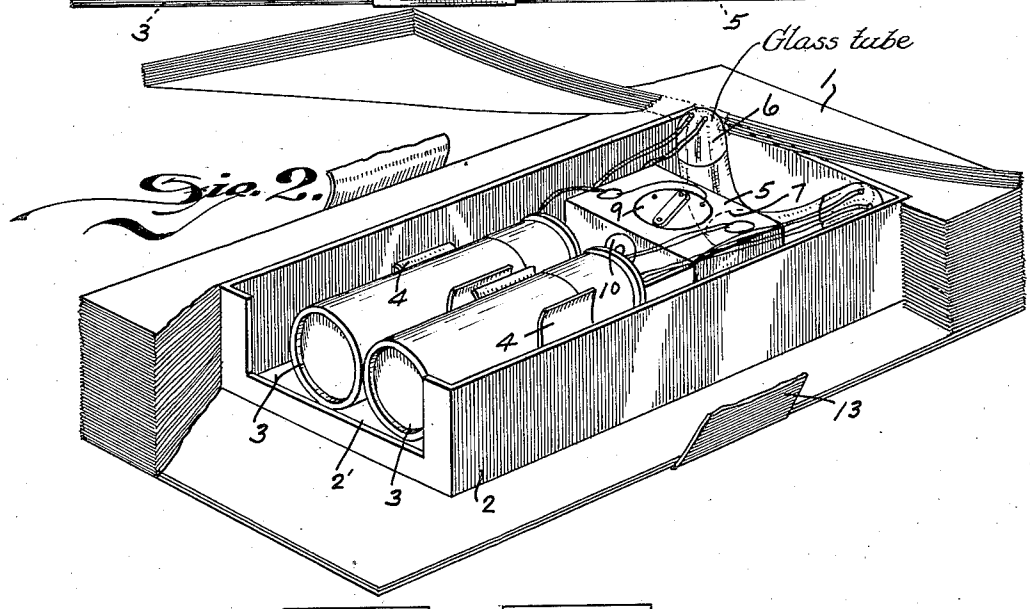
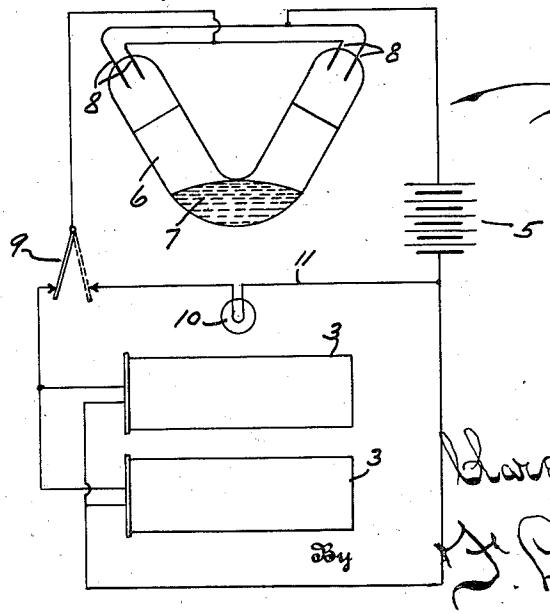


Fig. 3.



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PROTECTIVE PACKET

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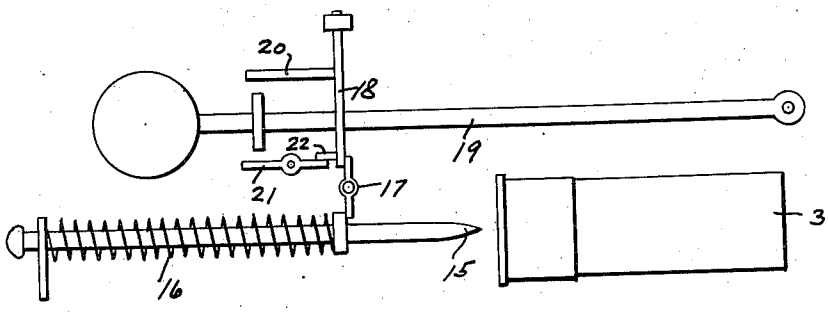

Fig. 4.

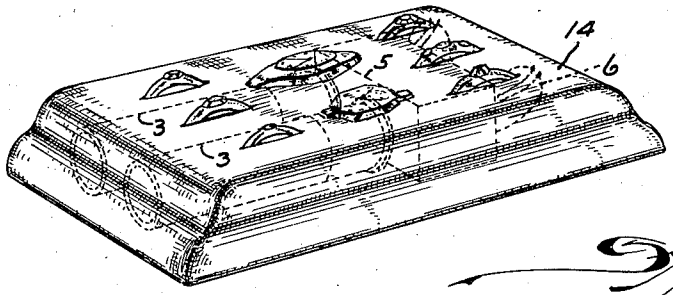

Fig. 5.

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PROTECTIVE PACKET

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Application December 22, 1930, Serial No. 504,063

9 Claims. (Cl. 177—314)

This invention consists of a protective device against robbery which will automatically discharge tear gas or other repellant substance upon disturbance by the robber.

Many gas discharge devices for protective purposes are available, such as gas bombs to be thrown, gas discharge devices located in walls or the ceiling of a room or elsewhere to be discharged by a button or switch at a distant point, devices mounted in watchmen's night sticks and even gas discharge devices disguised as fountain pens or the like. Such devices, however, depend for operation upon action by the person being robbed or by someone in the vicinity other than the robber himself. Ordinarily the person discharging the gas bomb or other gas discharge device and the persons being robbed are more seriously affected by the gaseous discharge than is the robber for whom the discharge was intended.

The present device is automatic in its action and may be deposited in a vault or safe or in a desk where in the event of an attempted robbery it will operate to disable the robber even though he may not have been discovered. In a simple and convenient form the present device comprises a dummy packet simulating a package of currency within which is concealed the bomb or other gas discharge device together with gravity or disturbance operated means for discharging the gas upon disturbance or tilting movement of the packet as would occur when a robber picks the packet up.

The object of the invention is to afford a protective device against robbery which will not only be cheapened in construction but will be efficient in operation, inexpensive, which will be portable and which may be placed in a cash drawer, on the counter or within the teller's cage during the day and be deposited in a vault or safe at night, and which upon disturbance will automatically discharge a repellent gas or other substance, and which will not easily get out of order.

A further object of the invention is to provide a robbery protective device which will be operated or set in action by the robber himself and hence will not be dependent upon discovery of the robbery or upon action of the persons being robbed.

A further object of the invention is to provide such device of compact form and of light weight which may be readily and easily concealed within a dummy packet simulating a package of currency, or within a jewelry display tray or other easily movable article.

With the above primary and other incidental objects in view as will more fully and clearly appear in the specification, the invention consists of the features of construction, the parts and combinations thereof and the mode of operation, or other equivalents, as hereinafter described and set forth in the claims.

Referring to the accompanying drawings wherein is shown the preferred but obviously not necessarily the only form of embodiment of the invention, Fig. 1 is a perspective view of a dummy packet of currency within which are concealed two gas discharge bombs or shells with electrical means for controlling their discharge upon disturbance of the packet. Fig. 2 is a similar perspective view wherein a portion of the packet has been removed to disclose the gas discharge shells and their control means. Fig. 3 is a diagrammatic view of the electrical control circuit and gravity operated mercury switch. Fig. 4 is a detail view of a mechanically operated discharge device. Fig. 5 is a perspective view of a jewelry display tray within which the protective gas shells or bombs and the control circuit may be concealed.

Like parts are indicated by similar characters of reference throughout the several views.

Referring to the drawings, 1 indicates a dummy packet simulating a package of currency which may be placed upon the cashier's desk or in the teller's cage with other currency being used in transaction of the day's business. This packet comprises a series of sheets or leaves having size identical with that of paper currency. These leaves are stacked one upon the other and the central portions of the leaves are removed to provide a cavity within the packet within which the gas shells and operating means are concealed. In the present instance such apparatus is contained within a very light sheet metal housing 2, embedded and enclosed within the stack of sheets or leaves 1, one end of the housing or enclosure 2 being cut away to provide for the free escape of the discharged gas. Located within the case or housing 2 are shown two gas shells 3—3 held in spring clips 4 secured to the bottom of the case or housing 2. These gas loaded shells 3—3 illustrated, are commercial gas shells identical with standard shot gun shells. Such gas loaded shot gun shells are now readily available upon the market. In the present instance, however, these shells 3 are provided with electrically operated ignition or discharge means in lieu of the usual percussion cap. Also located within the case or housing 2 and hence concealed with the packet is a dry cell battery 5 and a gravity operated elec-

tric control switch. In the present instance this control switch is shown as comprising a substantially V shaped tube 6 disposed in substantial perpendicular position and containing a body of mercury 7 normally positioned at the bend of the tube. This body of mercury is free to flow into either of the upturned arms of the bent tube 6 when the packet is tilted in either direction. Electric terminals 8 extend within the arms of the tube 6 and are electrically interconnected by the body of mercury 7 when it flows into such arms upon tilting the packet. These terminals 8 are electrically connected with the battery 5 and with the ignition devices of the explosive gas shells 3—3 as illustrated in the diagrammatic view Fig. 3. A switch 9 is preferably though not necessarily included in the circuit whereby the circuit may be opened and the device rendered safe for handling. The same switch is utilized to connect a signal lamp 10 in a shunt circuit 11 with the battery and through the terminals of the mercury switch so that the device may be safely tested from time to time to ascertain the condition of the battery 5.

The explosive gas shell 3 and the battery and control switch with the electrical connection are concealed within the packet by one or more overlying sheets, the top sheet of which is preferably a genuine piece of paper currency of any desired denomination. To further disguise the packet and increase its resemblance to a package of genuine currency, the usual strap 13 bearing indicia commonly employed by banks and financial institutions is employed about the dummy packet.

The dummy packet thus prepared with the switch 9 adjusted to connect the electrical circuit with the ignition devices of the gas shell 3 is laid with the packages of genuine currency on the cashier's desk or inside the teller's cage or it may be placed in the cash drawer or in the safe. Such packet would ordinarily be placed in a position most convenient to the robber in the event of an attempted robbery. In grabbing the packet from the desk or from the teller's cage, any decided movement of the packet causes the mercury to flow into one arm or the other of the switch tube 6 and thereby close the electric circuit and discharge the gas shells 3. The robber having the package in his hands at such time receives the full effect of the discharged gas. The V type mercury switch is such that the packet may be slidingly moved about upon the desk or counter and a cash drawer may be pushed to and fro without disturbing the mercury body or causing it to flow into the arms and thereby discharge the gas bombs or shells. The packet may even be tilted to a limited extent in a direction transversely to the plane of the V shaped tube without effecting the discharge of the shell, but any tilting movement such as would occur by the removal of the packet from the desk or counter by a robber and its placement in a pocket or in a satchel would cause an instant gaseous discharge.

While primarily designed for protection of financial institutions and for the protection of the cashier of stores, factories or mercantile establishments and hence preferably embodied in the dummy simulating a package of currency, the invention is not limited to such embodiment. In Fig. 5 there is shown a display tray for jewelry or the like in which the gas shells 3—3 together with the energizing battery 5 and switch, may be enclosed and concealed. It is not infrequent that jewelry and diamond robberies are attempted by pseudo customers who may grab a tray of gems or jewelry being displayed and make away with it. By enclosing and concealing within such tray 14, as illustrated in Fig. 5, one or more gas bombs or shells 3 with the necessary discharge system, such type of robbery can be effectually prevented and the robber be made to gas himself.

While the mercury type of switch is to be preferred, whether it be of the particular V type as illustrated or of other form, mechanically operated ignition devices may be employed in lieu thereof. In Fig. 4 there is shown a gas bomb or shell 3 provided with the usual percussion type of ignitor and a spring actuated firing pin 15 which is normally held retracted against the tension of its actuating spring 16 by a pivoted detent 17. This detent 17 is held in operative position by a reciprocatory slide element 18. A pendulum or vibratory weighted arm 19 extends in proximate relation with the reciprocatory member 18 and when moved in one direction is adapted to engage an arm 20 upon the reciprocatory slide 18 to withdraw such slide out of the path of the detent 17. Upon movement of the weighted arm in the opposite direction, such arm has engagement with a lever 21, which in turn engages a second arm or projection 22 upon the reciprocatory slide to shift such slide 18 out of engagement with the detent 17 and thereby release the firing pin. Thus the firing pin is released by the movement of the pendulum or the vibratory weighted arm in either direction. This mechanical construction has been shown merely for illustrative purposes and as an indication that the invention is not necessarily limited to the specific mercury control switch in an electrical circuit controlling the gas shells or bombs.

The safety switch 9 is easily accessible by removing or turning up the topmost leaves of the packet. While tear gas or chloracetophenone is the preferred material for loading the shells or bombs and to be discharged by disturbance of the packet, other repellant gaseous or liquid material may be employed in lieu thereof.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. In a robbery protective device, a dummy packet simulating a package of currency, a gas discharge device concealed within the package and automatically operated discharge means for the gas device also concealed within the package and energized by tilting movement of the packet.

2. In a robbery protective device, a dummy packet simulating a packet of currency, an electrically operated gas discharge means concealed

within the package, an electrical circuit including a source of electrical energy and a gravity operated electric switch in said circuit for discharging the gas discharge means upon tilting motion of the packet.

3. In a robbery protective device, a dummy packet simulating a package of currency, an electrically operated gas discharge device concealed within the packet, an electrical circuit therefor including a source of electrical energy, and a mercury switch also concealed in said packet operating to close the circuit and discharge the gas device said switch being more susceptible to movement of the packet in one direction than in another direction.

4. In a robbery protective device, the combination with a movable decoy packet, and an electrically operated gas discharge device concealed therein, of a normally upright substantially V shaped tube also concealed in said packet, a body of mercury therein normally positioned in the bend of the tube, and an electric circuit including a source of electrical energy and having electrical terminals in the arms of the tube closed by the mercury upon movement into an arm of said tube to effect the discharge of the gas device.

5. In a protective device of the character described, a movable decoy packet, a gas discharge device concealed therein and a directional disturbance operated control means including a source of energy for said gas discharge device more susceptible to movement of the packet in one direction than in a transverse direction.

6. The combination with a decoy packet and an electrically operated gas discharge device therein, of an electric circuit including a source of energy and a directional disturbance operated electric switch controlling said gas discharge device said switch including a mobile body confined to a single plane of movement and highly susceptible to movement of the packet in approximately the plane of movement of the mobile body, and electric terminals closed by the movement of said body, said body being less susceptible to movement in a direction transversely to its plane of operation.

7. The combination with a decoy simulating a valuable package, a gas discharge device concealed therein, and energizing means including gravity controlled means for setting in operation the gas discharge means upon tilting movement of the packet.

8. In a protective device of the character described, a movable decoy packet, an electrically operated repellent gas discharge device concealed therein, an electrical circuit therefor including a source of electrical energy, and a mercury operated switch therein including a vessel having contacts mounted above the level of the mercury, said mercury closing the circuit when the packet is moved to cause the mercury to close the contacts.

9. In a protective device of the character described, a movable decoy packet, an electrically operated repellent gas discharge device concealed therein, an electrical circuit therefor including a source of electrical energy and a mercury operated switch including a V-tube having contacts in the ends of the legs thereof and mercury in the bend of the tube below the contacts, said mercury closing the circuit when the packet is moved to cause the mercury to flow into either leg to close the contacts therein.

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