

March 23, 1965

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3,174,245

ROBBERY PROTECTIVE DEVICE

Filed Aug. 16, 1962

2 Sheets-Sheet 1

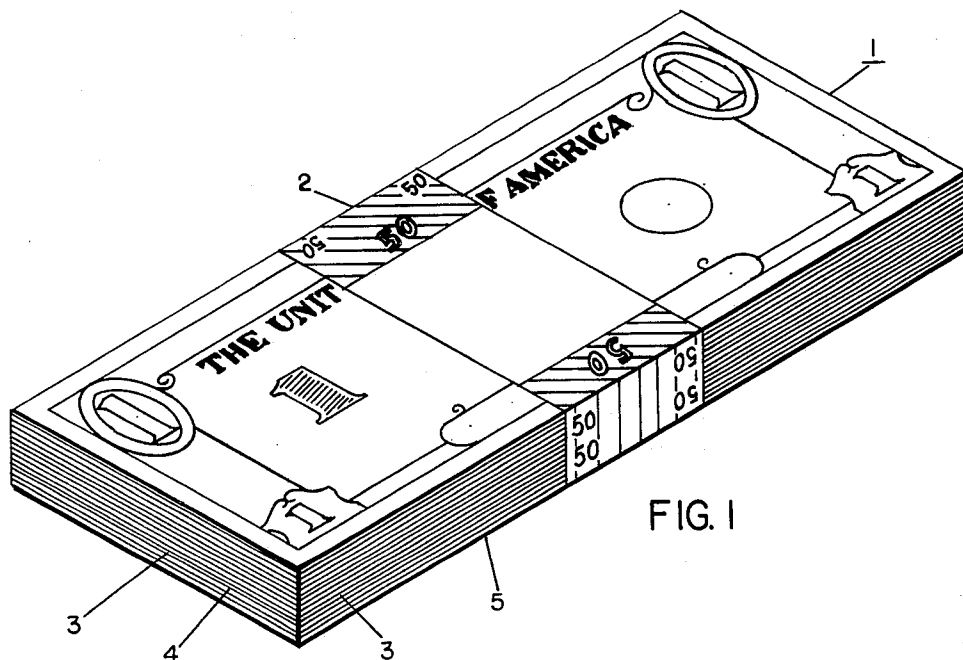


FIG. 1

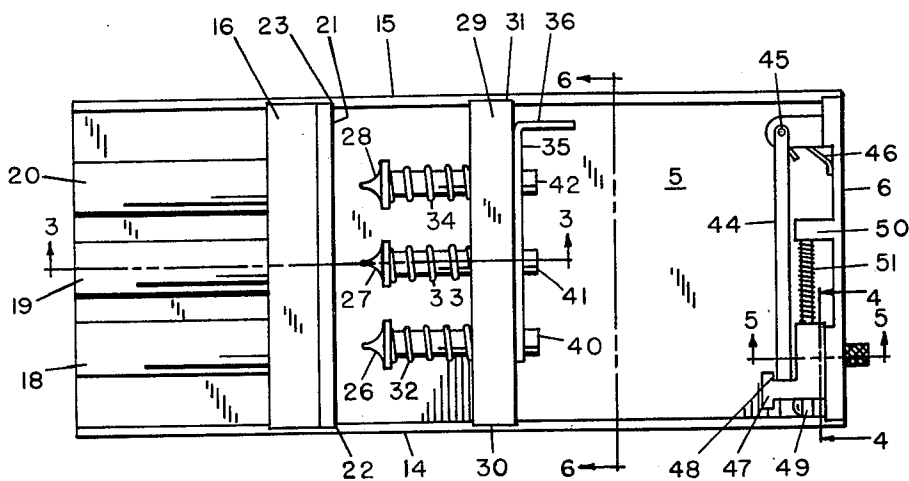


FIG. 2

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2 Sheets-Sheet 2

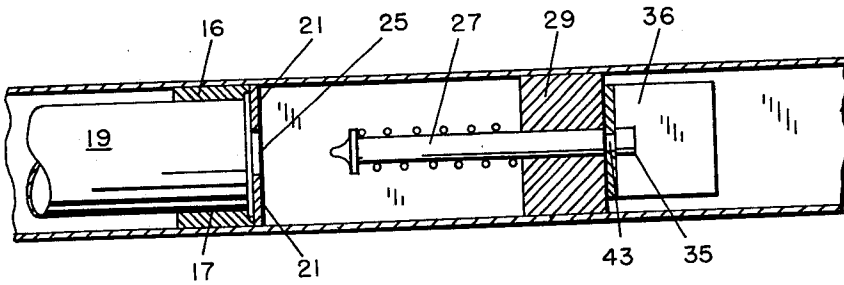


FIG. 3

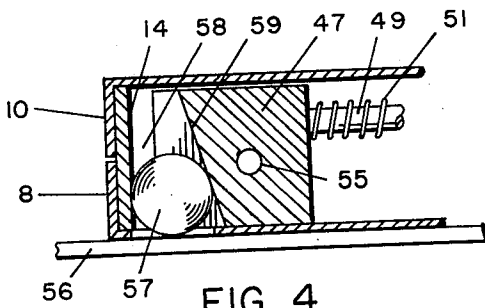


FIG. 4

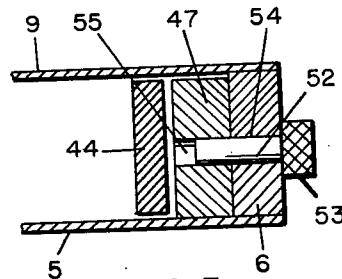


FIG. 5

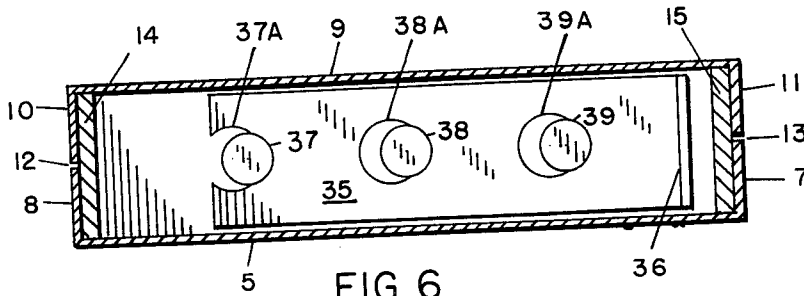


FIG. 6

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1

3,174,245

ROBBERY PROTECTIVE DEVICE

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5 Claims. (Cl. 42-1)

This invention relates to robbery protective devices and more particularly to a movable packet camouflaged to simulate the item or items desired to be stolen and which is provided with mechanically actuated means responsive to movement of the camouflaged device and which is arranged to discharge a substance such as tear gas for inhibiting the getaway of the robber.

Known electrically actuated robbery protective devices which are bodily movable must be of necessity utilize electric batteries. Thus there is always the possibility that such batteries will lose vitality over a period of time and reliability of the protective device is thus impaired.

A principal object of this invention is to provide a mechanically actuated and mechanically triggered robbery protective device which is especially sensitive to bodily movement of the device.

Another object of the invention is the provision of an improved gravity responsive release mechanism for a bodily movable robbery protective device wherein the mechanism is especially adapted for positive and certain release in response to bodily movement of the device.

Still another object of this invention is to provide an improved robbery protective device in which a plurality of discharge elements are utilized and wherein a common release mechanism for such discharge devices is utilized and in this way to improve reliability of the device and at the same time to provide a device which lends itself to ready camouflage in accordance with standard practices currently in use in connection with the handling of currency in standardized packets by banks and the like.

The invention in one form utilizes a frame of a size which is adapted for ready camouflage as a packet of currency, a plurality of tear gas cartridges removably mounted within the frame, a common firing pin sear for simultaneously actuating individual firing pins associated respectively with the discharge devices, a spring biased latch mechanism, a latching cavity at least a part of one wall of which is formed by a part of the latch means, a latching sphere disposed within the latching cavity, the latching sphere being free to fall downwardly out of the cavity in response to upward bodily movement of the protective device relative to the supporting surface, and a manually operable locking pin for holding the latch in its inactive position irrespective of the disposition of the latching sphere. In accordance with a feature of the invention at least one wall of the latching cavity preferably is tapered downwardly outward so that a component of the operating force imparted by the baising means to the latch is effective to urge the latching sphere in a downward direction and outwardly of the cavity in response to upward bodily movement of the protective device.

For a better understanding of the invention reference may be had to the following detailed description taken in conjunction with the accompanying drawings in which FIG. 1 is a perspective view of one embodiment of the invention as it appears when camouflaged to simulate a packet of currency of customary appearance and weight; FIG. 2 is a plan view of the protective device depicted in FIG. 1 but with the camouflage removed and with the top cover removed; FIG. 3 is an enlarged cross-sectional view taken along the line 3-3 as designated in FIG. 2; FIG. 4 is an enlarged cross-sectional view taken along the line designated 4-4 in FIG. 2; FIG. 5 is an enlarged cross-sectional view taken along the line 5-5 indicated on FIG. 2; and in which FIG. 6 is an enlarged cross-sectional view taken along the line designated 6-6 in FIG. 2.

With reference to FIG. 1 the numeral 1 generally designates a camouflaged packet in which the protective device comprising the invention is disposed. As is apparent in FIG. 1 a standard band 2 is wrapped about the packet and a one dollar bill in U.S. currency is disposed atop the packet 1. Of course, any desired denomination of currency may be used. The sides 3 of the packet as depicted in FIG. 1 are provided with a plurality of light lines designated generally at 4 for the purpose of simulating the edges of bills although it will be understood that the edges 3 and the opposite corresponding edges of the packet are in fact a flat sheet of paper on which lines 4 are printed, the purpose being to simulate a stack of currency bills. Of course, any suitable material may be used other than paper such, for example, as plastic or other material.

If desired a standard bill could be utilized on the bottom of the packet although such use is not deemed necessary.

If the band 2 and the top currency bill are removed the packet will appear as a box best shown in FIGS. 2 and 6. Preferably though not necessarily the inner cover is made of aluminum sheet. From FIGS. 2 and 6 it will be understood that the packet may comprise a metal bottom panel designated by the numeral 5 and a pair of side walls 7 and 8. Preferably though not necessarily side walls 7 and 8 are formed integrally with bottom panel 5. As can best be seen in FIG. 6 the top cover portion for the packet comprises a metal plate 9 together with side walls 10 and 11. Preferably though not necessarily side walls 10 and 11 are formed integrally with the top panel 9.

While FIG. 6 depicts the metallic frame including the side walls 7 and 8, 10 and 11 without showing the camouflage paper or other material designated at 4 in FIG. 1, it will be understood that these surfaces are covered with such paper or its equivalent as already explained in connection with FIG. 1, it being a simple expedient to provide a parting line whereby the top and bottom may be separated, such a parting line coinciding with the junction between side walls 10 and 8 designated generally at 12 and a corresponding junction designated at 13 in FIG. 6 between the side walls 7 and 11.

Disposed inside the outer cover as already described above is a frame comprising relatively rigid side struts 14 and 15 which are rigidly secured to the end wall 6 by any suitable means such as by welding or by screws or the like. Interposed between side walls 14 and 15 is a transversely disposed breach block 16 which is secured by welding or screws or the like at its ends to the frame elements 14 and 15. As can best be understood from FIG. 3, breach block 16 is provided with a plurality of cylindrical cavities, one of which is designated by the numeral 17. These cavities 17 respectively receive the body portions of a plurality of tear gas admitting cartridges designated in FIG. 2 by the numerals 18, 19 and 20. In practice these cartridges are of a size corresponding to a standard 410 gauge shotgun shell and conveniently are of a proper size to fit within the packet and still retain the dimensions of a commonly used standard size money packet. As can best be seen in FIG. 3 the flanged end of shell 19 is held in place against the breach block 16 by a recoil plate designated by the numeral 21. As can best be seen in FIG. 2 recoil plate 21 is secured in abutting relation on shoulder 22 formed along the inside surface of side frame element 14 and at its other end recoil plate 21 abuts shoulder 23 formed on the inside surface of side frame element 15. It will be understood that a firing pin opening is formed in recoil plate 21

for each shell 18, 19 and 20. Such an opening is shown in FIG. 3 and is designated by the numeral 25.

After the firing of the cartridges 18, 19 and 20, the recoil plate 21 is normally bowed toward the right and hence must be replaced.

For the purpose of causing the discharge of the tear gas cartridges 18, 19 and 20 a plurality of individual firing pins 26, 27 and 28 are provided. These firing pins are slidably mounted in firing pin block 29 which is secured at its ends to the side walls 14 and 15 of the frame. As is apparent from FIG. 2 one end of the firing pin block 29 is disposed in a slot 30 formed in side wall 14 and the other end of the firing pin block 29 is mounted in a slot 31 formed in the side frame element 15. Each firing pin is provided with its individual biasing spring designated in FIG. 2 for example by the numerals 32, 33 and 34.

For the purpose of holding the firing pins 26, 27 and 28 in their normal nonfiring or inactive positions and for releasing such pins simultaneously in accordance with a feature of the invention, a common firing pin sear member is utilized. This sear member is best shown in FIGS. 2, 3 and 6 and is designated by the numeral 35. It is apparent from the drawings that the common firing pin sear member 35 is provided with a transversely disposed percussion post 36 and a plurality of keyhole shaped apertures 37, 38 and 39. Since each firing pin is provided with a head portion designated in FIG. 2 for example by the numerals 40, 41 and 42 and a reduced neck portion designated in FIG. 3 for example by the numeral 43, it is apparent from FIG. 6 that movement toward the right of the firing pin sear 35 will simultaneously cause the enlarged parts 37A and 38A and 39A of each of the openings to coincide with the axes of the firing pin heads 40, 41 and 42. In this manner the firing pins are all released simultaneously and move quickly toward the left as viewed in FIG. 2 under the biasing action of their individual biasing springs 32, 33 and 34. Of course, upon impact with their associated discharge devices a disabling substance such as tear gas is emitted and the robber is temporarily incapacitated due to the fact that the substance discharged will inhibit his normal sensory perception and will prevent immediate physical activity. Immediately following the discharge of the discharge elements 18, 19 and 20, a building guard, policeman or other officer is attracted by the noise and may apprehend the robber easily due to his temporary incapacity.

For the purpose of actuating the common firing pin sear member 35, a spring biased percussion element 44 pivoted at pivot pin 45 is arranged to swing in a clockwise direction as viewed in FIG. 2 and ultimately the swing end of the percussion arm 44 engages the percussion post 36 and imparts operating movement thereto. The bias of the percussion arm 44 is imparted by a suitable relatively stiff coil spring designated in FIG. 2 by the numeral 46.

For the purpose of holding motivating means in the form of percussion arm 44 in its normal position and for releasing such arm in response to suitable actuation, latch means 47 having a latching detent 48 is slidably mounted on a post 49 secured at one end to side wall 14 and at the other end to projecting element 50 integrally formed or otherwise secured to end wall 6. Latch 47 is biased toward unlatching position by biasing means 51 in the form of a coil spring.

As a safety precaution and in order to render the device inactive even though charged with live cartridges 18, 19 and 20, a suitable manually operable locking pin 52 having a knurled finger gripping portion 53 is provided. As is best shown in FIG. 5 locking pin 52 is slidably mounted in an opening 54 formed in end wall 6 and the left-hand end of locking pin 52 as shown in FIG. 5 is slidable into and out of an opening 55 formed in the body portion of latch 47. Thus the device is rendered safe when the locking pin 52 is disposed within the opening 55 in latch 47 as depicted in FIG. 5. In order to

render the device capable of automatic actuation, the locking pin 53 is simply moved toward the right so that its left-hand end disengages the opening 55 in latch 47. When such movement to the right is effected manually, the latch 47 is then under the influence of biasing spring 51 and when in condition for use, the latch 47 is held in its inactive position by the structure best depicted in FIG. 4.

FIG. 4 shows the device when mounted on a support surface designated by the numeral 56 and a free body 57 is shown in FIG. 4 as being disposed between the frame element 14 and the left-hand end of latch 47. Stated otherwise, the latching sphere 57 is disposed within a latching cavity generally designated in FIG. 4 by the numeral 58. At least one wall of the latching cavity 58 is arranged so that it tapers downwardly outward as depicted at 59 in FIG. 4. Thus the action of spring 51 causes the latching means 47 to move quickly toward the left as viewed in FIG. 4 when the packet 1 is lifted bodily upward relative to the support surface 56 due to the fact that the free body 57 is then free to fall outwardly through the open bottom end of the cavity 57. Furthermore, it will be understood that in accordance with a feature of the invention a component of the force exerted by spring 51 toward the left due to the sloping surface 59 tends to aid gravity in causing the sphere 57 to be ejected quickly and positively from the open bottom end of the latching cavity 58. Thus it will be understood that according to a feature of the invention by utilizing the sphere 57 and the sloping surface 59 and parts associated therewith positive mechanical triggering action is achieved. Thus when the robber picks up the packet which to him appears as viewed in FIG. 1, the sphere 57 promptly and positively drops out of the cavity 57 and the cartridges 18, 19 and 20 promptly discharge their contents in a positive and quick manner due to the mechanical action described above.

While I have shown and described a particular embodiment of the invention, I do not wish to be limited thereto and intend in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A movable robbery protective device arranged to be positioned on a support surface, said device comprising a frame, discharge means mounted on said frame and normally charged with a substance adapted to inhibit normal sensory perception and physical reaction when discharged from said discharge means, biased actuating means in said frame for causing said discharge means to discharge said substance, sear means supported on said frame and normally restraining said actuating means against operating movement and movable to a releasing position, motivating means mounted on said frame, latch means on said frame and normally engaging said motivating means, biasing means normally urging said latch means toward its releasing position, and a free body normally interposed between a part of said latch means and a part of said frame and movable relative to said latch means and frame due to gravity in response to upward movement of said device to release said latch means, said free body being held in its normal position by the support surface for said device.

2. A movable robbery protective device arranged to be positioned on a support surface, said device comprising a frame, discharge means mounted on said frame and normally charged with a substance adapted to inhibit normal sensory perception and physical reaction when discharged from said discharge means, biased actuating means in said frame for causing said discharge means to discharge said substance, latch sear means supported on said frame and normally restraining said actuating means against operating movement and movable to a releasing position, motivating means mounted on said frame, latch

5

means on said frame and normally engaging said motivating means, biasing means reacting between a part of said frame and said latch means and normally urging said latch means toward its releasing position, and a free body normally interposed between a part of said latch means and a part of said frame and movable relative to said latch means and frame due to gravity in response to upward movement of said device to release said latch means, said free body being held in its normal position by the support surface for said device, a component of the force exerted by said biasing means against said latch means and said free body being effective to aid gravity action in imparting latch releasing movement to said free body.

3. A gravity responsive release mechanism for a movable robbery protective device arranged to be positioned on a support surface, said mechanism comprising a frame, a latching cavity formed in said frame and having an open bottom, latch means mounted on said frame, at least a part of one wall of said cavity being movable with said latch means, biasing means constantly urging said latch means and said part of said wall in a direction inwardly of said cavity in a transverse direction relative to the force of gravity, and a free body normally disposed in said cavity and normally preventing inward movement of said latch means relative to said cavity, said free body being held in said cavity normally against the effect of gravity by said support surface, at least one wall of said cavity which receives the thrust of said latch means due to said biasing means being tapered outwardly and downwardly to facilitate relative vertical movement between said cavity and said free body in response to upward movement of said device relative to said support surface.

4. A gravity responsive release mechanism for a movable robbery protective device arranged to be positioned on a support surface, said mechanism comprising a frame, a latching cavity formed in said frame and having an open bottom, latch means mounted on said frame, at least a part of one wall of said cavity being movable with said latch means, biasing means constantly urging said latch means and said part of said wall in a direction inwardly of said cavity, and a sphere normally disposed in

6

said cavity and resting on said support surface, said part of said wall of said cavity being tapered downwardly outward so that a component of the force exerted by said biasing means against said latch means and said sphere is effective to aid in removing said sphere from said cavity in response to upward movement of said device relative to said support surface.

5. A gravity responsive release mechanism for a movable robbery protective device arranged to be positioned on a support surface, said mechanism comprising a frame, a latching cavity formed in said frame and having an open bottom, latch means mounted on said frame, at least a part of one wall of said cavity being movable with said latch means, biasing means constantly urging said latch means and said part of said wall in a transverse direction and inwardly of said cavity, a sphere normally disposed in said cavity and normally resting on said support surface, said part of said wall of said cavity being tapered downwardly outward so that a component of the transverse force exerted by said biasing means against said latch means and said sphere is effective to aid in removing said sphere downwardly from said cavity in response to upward movement of said device relative to said support surface, and a locking pin movably mounted on said frame and manually movable into and out of engagement with said latch means, said locking pin being effective to hold said latch means against inward movement relative to said cavity when in engagement with said latch means irrespective of the disposition of said free body.

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